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POLLUTION OF THE NAVIGABLE WATERS OF MORICHES BAY AND THE EASTER SECTION OF GREAT SOUTH BAY AND THEIR TRIBUTARIES. SECOND SESSION HELD AT PATCHOGUE, NEW YORK ON JUNE 21, 1967

Federal Water Pollution Control Administration
Washington, D. C.

21 June 1967

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PROCEEDINGS

SECOND SESSION
PATCHOGUE, NEW YORK
JUNE 21, 1967

CONFERENCE

Pollution of the Navigable Waters of Moriches Bay and the Eastern Section of Great South Bay and their Tributaries

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: SECOND SESSION :

: CONFERENCE :

: In the Matter of :

: Pollution of the Navigable :

: Waters of Moriches Bay and :

: the Eastern Section of Great :

: South Bay and their Tributaries :

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Second Session of the Conference in the Matter of Pollution of the Navigable Waters of Moriches Bay and the Eastern Section of Great South Bay and their Tributaries, Long Island, New York, convened at 10:00 a.m., on Wednesday, June 21, 1967, at Felice's Restaurant, Patchogue, New York.

PRESIDING:

Mr. Murray Stein, Assistant Commissioner for Enforcement, Federal Water Pollution Control Administration, Department of the Interior, Washington, D. C.

CONFEREES:

Mr. Dwight F. Metzler, Deputy Commissioner, State of New York Department of Health, Albany, New York

Mr. Robert D. Hennigan, Assistant Commissioner, State of New York Department of Health, Albany, New York

Mr. Paul DeFalco, Jr., Deputy Director, Northeast Region, Federal Water Pollution Control Administration, Department of the Interior, Metuchen, New Jersey

PARTICIPANTS:

H. Lee Dennison, County Executive, Suffolk County, Riverhead, New York

Robert T. Waldbauer, Mayor, Village of Patchogue, Patchogue, New York

Elizabeth M. Wallace, Director, Oyster Institute of North America, Sayville, New York

Nelson D. Houck, General Manager, Long Island Duck Farmers Co-operative, Eastport, New York

Hugh Mercer, President, Bluepoints Company, Inc., West Sayville, New York

Douglas McNicol, Fire Island Sea Clam Company, West Sayville, New York

Barney A. Evans, Principal Civil Engineer, Suffolk County Department of Public Works, Yaphank, New York

OTHERS IN ATTENDANCE:

Mark Abelson, Regional Coordinator, United States Department of the Interior, Boston, Massachusetts

Stanley Allan, Assistant Supervisor, Town of Brookhaven, Patchogue, New York

Richard E. Allen, Chairman, Suffolk County Sewer Agency, East Northport, New York

OTHERS IN ATTENDANCE (CONTINUED):

Mary C. Ansbro, Editor, Water in the News, The Soap & Detergent Association, New York, New York

Quentin Bennett, Marine Fisheries Sanitarian, New York State Conservation Department, Ronkonkoma, New York

Robert L. Burnap, Conservation Consultant, Conservation Services Unit, New Canaan, Connecticut

William L. Burns, Assemblyman, J. L. C. Water Resources, Amityville, New York

R. C. Clement, Staff Biologist, National Audubon Society, New York, New York

Morris Colen, Chief, Beach Erosion-Hurricane Section, United States Corps of Engineers, New York District, New York, New York

Herbert W. Davids, Director, Division of Environmental Health, Suffolk County Department of Health, Riverhead, New York

Milton W. Dedek, Supervising Public Health Educator, New York State Department of Health, White Plains, New York

Louis P. DiMatteo, Bowe, Albertson & Walsh, Melville, New York

OTHERS IN ATTENDANCE (CONTINUED):

Sumner A. Dole, Jr., Supervisory Fish & Wildlife Biologist, United States Fish & Wildlife Service, Patchogue, New York

Mrs. Thomas Feeney, League of Women Voters, Bellport, New York

G. E. Flynn, United States Coast Guard, Bayshore, New York

John M. Flynn, Associate Public Health Engineer, Suffolk County Health Department, Riverhead, New York

Jack Foehrenbach, Sanitary Chemist, New York State, Oakdale, New York

Edwin S. Furman, President, Southampton Baymen, Hampton Bays, New York

Howard B. Gates III, Senior Sanitary Engineer, New York State Health Department, White Plains, New York

Frank Graham, Milbridge, Maine

A. W. Grahame, Burde Associates, Paramus, New Jersey

Philip Guss, Development Engineer, Lockwood, Kessler & Bartlett, Inc., Syosset, New York

John E. Harrison, Regional Engineer, New York State Department of Health, White Plains, New York

Thomas N. Hushower, Sanitary Engineer, United States Public Health Service, New York, New York

OTHERS IN ATTENDANCE (CONTINUED):

Louis A. Ingrisano, New York State Conservation Department, Massapequa, New York

R.M. Kammerer, Commissioner, Public Works, Suffolk County, Yaphank, New York

Jack P. Kanas, Beacon Milling Company, Center Moriches, New York

James B. Lackey, Consultant, New York State Conservation Commission, Melville, New York

William T. Lauder, Counsel to Suffolk County Sewer Agency, Amityville, New York

J. Maynard Lednum, Retired Industrial Engineer, Sayville, New York

George E. Leone, M.D., Commissioner of Health, Suffolk County, Riverhead, New York

Arthur Lossin, Loan Officer, Small Business Administrations, New York, New York

Arthur McComb, President, Lake Ronkonkoma Civic Association, Ronkonkoma, New York

Gerard C. McCoyd, Group Leader, Research Department, Grumman Aircraft, Bethpage, New York

Joseph J. Monkoski, Civil Engineer, National Park Service, Philadelphia, Pennsylvania

F. L. Panuzio, Chief, Engineering Division, United States Army Corps of Engineers, New York District, New York, New York

Rheta Piere, Enforcement Program, FWPCA, U.S. Department of the Interior, Washington, D.C.

Rosanne Light, Program Analyst, Federal Water Pollution Control Adminstration, Department of Interior.

OTHERS IN ATTENDANCE (CONTINUED):

Cornelius Poillon, Executive Secretary, Long Island Fishermen's Association, Westhampton Beach, New York

Paul Resnick, Information Officer, Federal Water Pollution Control Administration, Department of the Interior, Metuchen, New Jersey

Mrs. P. R. Roe, Chairman, Conservation, Suffolk County League of Women Voters, Stony Brook, New York

Douglas H. Sarr, Conservation Engineering Technician, Soil Conservation Service, Department of Agriculture, Kingston, New York

Mrs. James Sherard, Suffolk County League of Women Voters, Oakdale, New York

R. S. Sherer, Vice-President, Westhampton Civic Association, Westhampton Beach, New York

Gerald W. Sielaff, National Park Service, Patchogue, New York

Nelson Slager, Secretary, Fire Island Fisheries, Inc., Bayshore, New York

Alvin Stein, Feather Sales Agency of Long Island, Speonk, New York

Richard Struble, Assistant Sanitary Engineer, New York State Department of Health, White Plains, New York

OTHERS IN ATTENDANCE (CONTINUED):

John E. Suydam, President, National Party Boat Owners Alliance, Babylon, New York

Nathaniel A. Talmage, Long Island Marine Resources Council, Riverhead, New York

Maurice H. Taylor, Wildlife Biologist, United States Fish & Wildlife Service, Patchogue, New York

Dr. George Vanderborgh, President, G. Vanderborgh & Son, West Sayville, New York

George Vanderborgh, Jr., President, Long Island Shellfish Farmers, West Sayville, New York

Robert A. Villa, District Engineer, Suffolk County Health Department, Riverhead, New York

K. H. Walker, Deputy Project Director, Hudson-Champlain Project, Federal Water Pollution Control Administration, Department of the Interior, Metuchen, New Jersey

Olin F. Warner, Jr., Olin Warner Duck Farm, Calverton, New York

Virginia Weston, League of Women Voters, Brookhaven, New York

Clarke Williams, Research Administrator, Marine Resources Council, Regional Planning Board, Bellport, New York

Opening Statement - Mr. Stein

P R O C E E D I N G S

OPENING STATEMENT

BY

MR. MURRAY STEIN

MR. STEIN: The conference is open.

This second conference session in the matter of pollution of the navigable waters of Moriches Bay and the Eastern Section of Great South Bay and their tributaries involving the State of New York and the U. S. Department of the Interior is being held under the provisions of section 10 of the Federal Water Pollution Control Act, as amended.

This conference was initiated under the shellfish amendments to the Act. Under these provisions of the Act the Secretary of the Interior is authorized to call a conference of this type when he finds that substantial economic injury results from the inability to market shellfish or shellfish products in interstate commerce because of pollution subject to abatement under the Federal Act and the action of Federal, State or local authorities.

The purpose of the conference is to bring together representatives of the State water pollution control agency, the U. S. Department of the Interior, and other interested parties to review the existing situation, the progress which has been made, to lay a basis for future action by all parties concerned, and to give the State, localities, and industries an opportunity to take any indicated remedial action under State and local law.

As you know, the conference technique is rather an old one. In the field of water pollution control, this technique is particularly applicable. As far back as 1921, the United States Supreme Court said, in dealing with a pollution case, that the conference technique with cooperative study and mutual concession was a better way of going at pollution control problems than action in any court, however constituted.

Experience has shown that the Supreme Court was right, and, certainly, as a lawyer, my experience has shown that this is the way to go at this. I know that New York State uses the conference technique in its normal operation of business and has achieved remarkable results in pollution control.

Also, as you probably will determine as we proceed for a while, the conferees here have known each other

for a long time. Particularly, Mr. Metzler and I have been working with this Federal conference technique since 1955, both in the midwest and here, so I guess we are pretty old hands at the conference operations.

Dwight, our record is that up to this time we have always come up with a solution that we thought was equitable and, as carried out, a substantial amount of pollution has been cleaned up.

Let me just take one moment to tell you this. Back in 1955, when Mr. Metzler was in Kansas City, we had these Federal conferences and I was out visiting him. In all the cities along the Missouri River, Sioux City, Omaha, Council Bluffs, Leavenworth, Kansas City and St. Joseph, the waste was being dumped in raw. As a matter of fact, the garbage and the refuse was collected in the towns, taken to the edge of the river, and dumped.

As a result of the work of the States and as the aftermath of the conference, all the cities there have spanking new water pollution control treatment facilities which are in operation and are treating their wastes now. There has been a complete transformation up and down that river.

We strongly support the conference technique and we measure our success by the problems which are solved

at the conference table, rather than in court.

As specified in section 10 of the Federal Water Pollution Control Act, the Secretary of the Interior has notified the official State water pollution control agency of this conference. This conference is between the New York State Department of Health and the Federal Water Pollution Control Administration of the U. S. Department of the Interior.

The State of New York has designated as its conferees for this conference Mr. Dwight F. Metzler and Mr. Robert D. Hennigan of the New York State Department of Health. Mr. Paul DeFalco, Jr., of the Interior Department's Hudson-Champlain Project, has been designated as conferee for the Federal Government.

My name is Murray Stein. I am from headquarters of the Federal Water Pollution Control Administration, in Washington, D. C., and the representative of Secretary Udall.

The parties to this conference are the representatives of the State of New York and the U. S. Department of the Interior. Participation in this conference will be open to representatives and invitees of these agencies. I would suggest, during the first recess we have, that anyone in New York wishing to make a statement get in touch with Mr. Metzler, who will manage the time for New York and call

on those people who wish to make statements for the conference.

MR. METZLER: May I supplement that, Mr. Chairman, with an additional brief remark? Jack Harrison, who is the Regional Engineer for the State Health Department is managing this. Already some have approached me. May I ask Jack to stand up so that we can be sure that everybody can identify him. If those wishing to make statements will see him, then we will have our witnesses in orderly fashion.

MR. STEIN: All right. Both the State and Federal governments have responsibilities in dealing with water pollution control problems. The Federal Water Pollution Control Act declares that the States have primary rights and responsibilities for taking action to abate and control pollution. Consistent with this, we are charged by law to encourage the States in these activities. At the same time, the Secretary of the Interior is charged by law with specific responsibility in the field of water pollution control in connection with interstate and navigable waters.

The first session of the conference we had here suggested that the waters here were navigable and there was pollution occurring in these waters subject to abatement.

The Federal Government can initiate enforcement action whenever the Secretary of the Interior finds that substantial economic injury results from the inability to

market shellfish or shellfish products in interstate commerce because of pollution of interstate or navigable waters, and the action of Federal, State or local authorities.

At the first conference session held September 20-21, 1966, the conferees unanimously agreed to the following conclusions and recommendations:

1. On the basis of statements presented at the conference, evaluation of the testimony, the answers, and the conclusions, the conferees believe the waters of Moriches Bay and the eastern section of Great South Bay are polluted.

2. This pollution substantially interferes with the shellfish industry in the shipment and marketing of shellfish in interstate commerce.

3. To date, the remedial measures taken to abate the pollution have not been adequate. The delays in abating the pollution are due to the very complicated nature of the problem and the tremendous growth of the community in terms of population.

4. The conferees believe that the pollution problems are amenable to solution, and that multiple uses of the waters are possible.

5. There are four points involved in the total pollution control problem in the conference area. These are: (1) duck farm wastes, (2) domestic wastes, (3) sludge

deposits in bay waters, and (4) the bay inlets.

6. The conferees agree it will be necessary to develop a comprehensive, detailed plan and program for remedial action, including time schedules, to effect a solution to the total water pollution problem in the conference area. For this purpose a coordinating committee consisting of Federal, State and local representatives will be established to analyze the four points listed above, develop an integrated plan for pollution control, detailed recommendations for remedial action, and a time schedule to put these recommendations into effect. Within one month from the date of this conference, the coordinating committee is to make recommendations on the inlets problem. The committee is to prepare a comprehensive report on its program and plans for remedial action.

7. Upon completion of the report of the coordinating committee, the conference will be reconvened at the call of the chairman to evaluate the report and adopt a uniform plan and time schedule for pollution abatement.

This report of the coordinating committee has been completed and accordingly this conference has been reconvened.

As you will see when the report comes out, we have had the widest representation on the committee. There were Federal representatives, State representatives, local

representatives, and representatives of the duck industry and the shellfish industry.

Now a word about the procedures governing the conduct of the conference. The conferees will be called upon to make statements. The conferees, in addition, may call upon participants whom they have invited to the conference to make statements. In addition, we will call on other interested individuals who wish to present statements. At the conclusion of each statement, the conferees will be given an opportunity to comment or ask questions.

This procedure has proved effective in the past in demonstrating a clear picture of what has happened. We have found that we cannot open this to floor questions, but everyone will be given an opportunity to put any relevant material into the record. If you feel you have any questions to ask or statements to make, just hold them until you make the statement, and you will find that in that way we will have an orderly development of all of the pertinent facts and issues.

At the conclusion of the conference we will have a discussion amongst the conferees. Depending on how the conference goes, we will determine whether we will have an executive session or not. Sometimes we can move more rapidly and it is more productive if the conferees adjourn

for a few minutes, and sometimes the picture is so clear that we can settle this right at the table, but this will develop a little later.

Under the Federal law, the Secretary of the Interior is required at the conclusion of the conference to prepare a summary of it which will be sent to the conferees. The summary, according to law, must include the following points:

1. Occurrence of pollution of navigable waters subject to abatement under the Federal Act;
2. Adequacy of measures taken toward abatement of pollution; and
3. Nature of delays, if any, being encountered in abating the pollution.

The Secretary is also required to make recommendations for remedial action if such recommendations are indicated.

A record and verbatim transcript of the conference is being made by Mr. Al Zimmer. This is made for the purpose of aiding us in preparing a summary, and also providing a complete record of what is said here.

We will make copies of the summary and transcript available to the New York State Department of Health.

We have found that, generally, for the purpose

of maintaining relationships within the State, that the people who wish summaries and transcripts should request them through their State agency rather than come directly to the Federal Government. The reason for this is that when the conference has been concluded, we would prefer people who are interested in the problem to follow their normal relations in dealing with the State government rather than the Federal Government on these matters. This has worked successfully in the past and we will be most happy to make this material available to New York for distribution.

I would suggest that all speakers and participants other than the conferees making statements come to the lectern and identify themselves for the purpose of the record.

Before we go on, in accordance with usual procedure, we have some Congressional statements first. I just received a telegram, which reads as follows:

"Dear Mr. Chairman:

"I regret that the Senate schedule does not permit me to join you and the other members at this second session of the abatement conference on Great South and Moriches Bays.

"I do, however, want to urge the conference to

adopt the proposals made by the Long Island Coordinating Committee. They must be adopted and acted upon if Long Island's unique waterways and beaches are to be preserved.

"In anticipation of the first recommendation to widen, deepen and stabilize Moriches Inlet -- I have already urged the Senate Appropriations Committee to designate funds for the second stage planning that must now be undertaken. This dredging project can pay dividends in terms of expanded shellfish harvests, greater circulation of ocean water in the bays and less pollution on the surrounding beaches.

"But other steps must also be taken. Unless the pollution coming from unsewered population, from the duck farms and from other sources is collected and treated, this dredging will be to no avail.

"And it is on these steps, construction of a secondary treatment plant in Patchogue, arranging to dump duck wastes in the ocean during the late spring months, operation of adequate treatment facilities at all duck farms and a general improvement of town and village sewage systems, that we

rely on local government for action.

"Fortunately, Federal and State assistance is available to help eliminate pollution in Great South and Moriches Bays. The Federal Government will now contribute up to 55 percent of the cost of sewage collection and treatment plants. And the State will contribute an additional 30 percent. This greatly reduces the financial load on local taxpayers.

"This is the season when Long Island's beaches open up. This is the season when dredges and oyster boats prepare for the fall harvest. Let us also make this the season when positive steps are taken to eliminate pollution in our bays.

"I urge you to adopt the recommendations of the conference."

Signed, "Robert F. Kennedy."

As usual, Senator Kennedy, who has been following this and other pollution problems in the country, has done his homework and made specific recommendations. He is one elected official that we don't just get glittering generalities from. He has always been very helpful to us and to the pollution program.

We also have a statement from Congressman Lester L. Wolff of the 3rd Congressional District.

Miss Light, do you have that statement?

MISS LIGHT: Yes.

MR. STEIN: Would you come to the lectern and read it, please?

STATEMENT OF HONORABLE LESTER L. WOLFF, U. S. HOUSE OF REPRESENTATIVES, 3rd CONGRESSIONAL DISTRICT, NEW YORK, READ BY MISS ROSANNE LIGHT

MISS LIGHT: "The growth and development of Suffolk County has not only local importance, but is of importance throughout the State and the rest of the country. Accordingly, the problems resulting from the growth and development of Suffolk County are of concern well outside the geographic boundaries of the County.

"One of these problems is water pollution. And as this conference demonstrates, water pollution in this area is a local problem, a State problem, and a National problem.

"This conference, first convened last September, has made a great step forward in determining the causes of pollution of Moriches Bay and the eastern section of Great South Bay, and has set in motion the machinery to effect a

program to remedy the situation. I fully expect that at the conclusion of this conference, we will be well on the way toward accomplishing an effective action program to clean up the Bays.

"But when this conference has ended it would be premature to believe that our water pollution problems here have been solved. This conference deals only with existing problems in a specific area. Beyond the scope of this conference are potential pollution problems which involve Suffolk County and will have effects on a much wider area.

"Specifically, I am concerned with the problem of domestic waste disposal in this County. As the excellent report of the Long Island Coordinating Committee points out, all of Suffolk County depends upon ground water, obtained from wells, for its water supply. With few exceptions, public sewer systems do not exist here. The private sub-surface waste disposal systems, presently in use, discharge to the ground waters and thus the contaminants from our domestic wastes enter the ground waters.

"I believe that the future growth of Long Island will depend on a readily available supply of fresh water, and only public sewers and the necessary treatment facilities can prevent the contamination of our water supply. I think

there is an urgent need to begin taking the necessary measures now. Delay will only increase the hazard of pollution and will increase the cost of building the sewers.

"In February the referendum for Sewer District No. 1 was defeated. When this referendum is again presented to the voters of Suffolk County, I urge that it be approved.

"The State and Federal governments can help in the project by bearing a portion of the expenses. But the initial action of approving the project must be taken by the County voters. Although the cost of public sewers may seem prohibitive at this time, I believe that unless the sewers are built in the near future, the costs in terms of economic losses may be immeasurable."

Thank you.

MR. STEIN: Thank you, and thank Congressman Wolff.

Again, as you people can see, the Congressional delegation keeps fairly close tabs on us in Washington in relation to the problem up here.

Are there any other Congressional representatives?

(There was no response.)

MR. STEIN: If not, the Federal representative here, and conferee will waive his statement at this time.

The important thing is to get into the meat of the report so that we can proceed with the substantive part of the conference.

With that, we will call on Mr. Metzler, but before you go on, let's go off the record.

(There was discussion off the record.)

MR. STEIN: All right, Mr. Metzler.

MR. METZLER: Mr. Stein, fellow conferees:

Mr. Hennigan served as chairman of the committee to carry out the charges which we gave the committee at the last session. I understand that relatively few of those who are here have actually seen a copy of the report. For that reason, we will give some condensation, but a rather complete review of the report itself.

Mr. Hennigan.

STATEMENT OF MR. ROBERT D. HENNIGAN,
CONFEREE, AND ASSISTANT COMMISSIONER,
NEW YORK STATE DEPARTMENT OF HEALTH,
ALBANY, NEW YORK

MR. HENNIGAN: Incidentally, copies of the report are available at the table in the rear of the room.

Among the recommendations by the conferees at

the conclusion of the Federal Enforcement Conference in the matter of pollution of the navigable waters of Moriches Bay and Eastern Section of Great South Bay, Long Island, New York, was the formation of a coordinating committee consisting of State, Federal and local representatives. This committee was charged with the preparation of a report recommending on a short-range and long-range basis, methods to eliminate water pollution within the conference area.

Specifically, the committee was to study the problem of inlet control and stabilization, duck farm waste treatment, domestic waste treatment and removal of existing sludge deposits. The report on inlets was submitted to the conferees in November 1966.

The committee members are listed in this report which is submitted to the conferees for their consideration in setting up abatement time schedules to control the total pollution problem in Moriches Bay and the Eastern Section of Great South Bay.

Let me first thank the committee members for their cooperation and dedication to the task that was presented to them. I would also like to give special thanks to Jack Harrison.

The members of the committee included:

Mark Abelson - U. S. Department of the Interior

Sylvan Martin - U. S. Public Health Service

Frank L. Panuzio - U. S. Army Corps of Engineers

Douglas McNicol - Shellfish Growers

David H. Wallace - N. Y. State Conservation Department

Charles Dominy - Suffolk County

Charles Barrand - Suffolk County

Edward De Piazzy - Long Island Duck Growers

I would also like to take this opportunity to thank the Alternates and Advisors to the committee. The Alternates included:

Paul DeFalco - U. S. Department of the Interior

Arthur Handley - N. Y. State Department of Health

Ralph Van Derwerker - U. S. Public Health Service

James C. Riley - U. S. Army Corps of Engineers

The Advisors included:

Dr. George E. Leone - Suffolk County Department of Health

Herbert Davids - Suffolk County Department of Health

Robert Villa - Suffolk County Department of Health

George Morrison - U. S. Public Health Service

Nelson Houck - Long Island Duck Growers

William Cosulich - Consulting Engineer

R. M. Kammerer - Suffolk County D.P.W.

B. A. Evans - Suffolk County D.P.W.

Sumner A. Dole - U. S. Bureau of Sport Fisheries and Wildlife

And again, a special thanks to John E. Harrison of the New York State Department of Health, who acted as Executive Secretary to the committee.

I. GENERAL BACKGROUND

Geography

The area under consideration by this report lies on the south shore of Long Island, New York. It consists of Moriches Bay west of Westhampton Beach, and the eastern end of Great South Bay, east of a line connecting Blue Point and Water Island. Included are Patchogue Bay, Bellport Bay and Narrow Bay, the connecting waterway between Great South Bay and Moriches Bay. Also included are the coves, rivers and estuaries tributary to the main bays.

Great South Bay and Moriches Bay are separated from the Atlantic Ocean by a narrow sand bar, in places only a few hundred yards wide. Both bays are extremely shallow, varying in depth from one to 11 feet with a mean depth of four feet. Moriches Bay is nine miles long and varies from one to two miles in width. Great South Bay, in its entirety, is 24 miles long, averages three miles in width, and has an area of 95 square miles. That portion of Great South Bay

included in this report is eight miles long and two to four miles wide.

Population and Economy

The study area lies in the towns of Brookhaven and Southampton in Suffolk County. These towns are essentially rural in character and are dotted both inland and along the shore by small incorporated villages and unincorporated areas. The townships have experienced dramatic upsurge in population growth in recent years. In the period 1950-1961, the population of the town of Brookhaven increased from 44,522 to 114,780 while that of the town of Southampton increased from 17,013 to 28,467 people. During this same decade, the entire Suffolk County experienced a 149 percent increase in population, from 276,129 to 697,462. The population boom in Suffolk County has continued, with estimates of 756,000 by 1963 and 950,000 by the end of 1965. These figures indicated the rapid growth experienced on Long Island as people have moved farther from New York City.

Land use in the study area is mainly residential, recreational and agricultural. There are many summer homes along the ocean and bay shores, and a number of public and private bathing beaches are maintained throughout the area. Smith Point County Park, located on Great South Beach between Great South Bay and Moriches Bay, is part of the long

narrow sand bar lying to the south of Great South Bay which constitutes Fire Island National Seashore.

The area is well known for both produce and poultry. Potatoes, cauliflower, asparagus, tomatoes, lima beans and strawberries are the chief crops. The Long Island duck has become a household word throughout the country. These ducks are raised on farms lining the shores of the rivers and inlets along the mainland. In 1965, there were 39 active duck farms in Suffolk County. Thirty-two of these, producing more than three million ducks per year, are located in the study area.

HYDROGRAPHY

Although the annual rainfall in the study area averages 46.5 inches per year, there are no major fresh water streams discharging into the bays and the majority of the precipitation becomes part of the ground water. As a result of the limited surface runoff only small amounts of fresh water directly enter Moriches and Great South Bays. The primary discharge of fresh water into the Bays comes from ground water movement which causes a natural discharge from the sub-surface reservoirs located under Long Island.

Sufficient sea water enters through Fire Island and Moriches Inlets to maintain the salt distribution in the bays. Tidal movement of waters is generally sufficient

to prevent stratification in the open bays. Stratification does occur, however, to some extent near the inlets and rivers tributary to the bays. Although there is sufficient tidal movement to permit mixing of the waters in the bays, there is very little flushing action and the amount of new water entering from the sea is quite limited. The normal circulation pattern in the bays when Moriches Inlet is open is easterly with the water going from Great South Bay into Moriches Bay. When the Moriches Inlet is closed by silting, water movement is reversed with the water of Moriches Bay going into Great South Bay. For the above reason the hydrography of the bays is dependent to a large extent on the status of the Moriches Inlet.

WATER USES

Domestic Water Supply

The primary source of water supply for all purposes in Suffolk County is ground water, obtained from wells. These same ground waters also provide water for agricultural irrigation and for operating duck farms. Almost 20 billion gallons of ground water were withdrawn from Suffolk County's underground reservoirs in 1956. This withdrawal is accompanied by a high return rate. The U. S. Geological Survey has estimated that for 1961 in Suffolk County, "probably 80 percent of the water pumped from public,

private and industrial wells is returned to the ground."

Bathing

The waters of Moriches and Great South Bays are used extensively for recreational bathing at both public and private beaches. Many miles of privately owned shore line property are used for bathing. In 1966, a portion of the sand bar separating Great South Bay from the ocean was dedicated as Fire Island National Seashore. With this facility available, it is expected that recreational bathing will increase as an influx of tourists begin to enjoy this site.

Finfishing

The area serves as an important commercial fishing source. In 1961, an estimated total of 354,000 pounds of fish were landed in Great South Bay and Moriches and Shinnecock Bays.

Sport fishing is also very popular in the area. Many deep sea fishing boats operate from the various marinas, and private boats of all sizes are used for sport fishing.

Shellfishing

Shellfish, primarily hard clams, are harvested extensively from the area. In 1961, more than two million pounds of shellfish were taken from the area. At one time, the area supported an extensive oyster harvest, but in recent

years the crop of oysters has been reduced and the oyster is no longer a significant factor in the economy of the area.

Boating

The dramatic increase in recreational boating activities on the national level has been reflected along the entire Long Island shore. As increasing numbers of persons have more leisure and income, there has been an accompanying growth in boating, so that there is now an abundance of all types and sizes of pleasure boats using the waters of Great South Bay and Moriches Bay. Nine yacht clubs and numerous marinas dot the shoreline from Patchogue Bay to Westhampton.

Duck Farming

The operators of duck farms make extensive use of the waters of the rivers, creeks, coves and estuaries. These bodies of water and the adjacent shore areas are fenced and diked to form holding pens which provide the duck with access to both land and water. Water usage at typical duck farms ranges from 14 to 120 gpd per duck. At the larger farms, water usage can be in the order of 2-3 mgd.

Other Interest

Many different agencies on all levels of government are directly interested in the study area.

The Federal Government is interested in the area

and the quality of the waters because of the interstate sale of shellfish, and other commercial fish obtained from the area. The Federal Government is also interested in the recreational aspects of the area including the development of the beach area as a national park. Federal agencies are also directly involved with the maintenance of the channels, dredging and control of beach improvements to minimize hurricane damage. There is also strong interest in pollution abatement to be certain that the waters of the study area are utilized to their fullest possible extent.

State interest in the area is also very widespread as evidenced by the activities of various departments. Regulations, control and consultation are utilized by the shellfish industry, the duck raising industry, farming and other industrial developments in the area. The recreational aspects of the area and preservation of fishing and shellfishing are under the control of State agencies as is the abatement of pollution by the duck farms and other sources.

It is at the local level that the major interest exists. Suffolk County and the Town of Brookhaven are directly concerned with the problem of dredging the Bays and the various coves and other areas. Local interest is very high in recreational aspects and fishing in the area which brings many tourists and county residents to the area in

the summer months. Farming, duck raising, and shellfishing are all important industries in the area.

INLET REPORT

Moriches Inlet

1. DESCRIPTION. Moriches Inlet is one of five openings through the narrow sandy barrier beach which separates the Atlantic Ocean from a series of interconnected bays on the south shore of Long Island (Figure 1). The inlet, located in the Town of Brookhaven, Suffolk County, Long Island, New York is by water, 80 miles east of the Battery in New York City and 52 miles west of Montauk Point.

2. The inlet was formed as a result of a break through the barrier beach during a period of abnormal tides and waves on 4 March 1931. The inlet, 2,000 feet long and 800 feet wide, forms the entrance from the Atlantic Ocean to Moriches Bay (Figure 1).

3. The condition of the inlet in 1955 is shown on Figure 2. The condition of the inlet in June 1965 is shown on Figure 3. The condition of the bay between the Intracoastal Waterway and the inlet is also of significance. An elongated sand bar has formed across the ocean entrance of the inlet with controlling depth of 3.4 to 6 feet at mean low water. An arc-shaped shoal with a controlling

depth of 1.2 feet at mean low water,has formed along the easterly jetty. This shoal with a length of about 800 feet along the jetty and about 550 feet normal to the jetty has forced the navigable channel against the west levee. The navigable channel with a controlling depth of 12 feet at mean low water has a minimum width of about 170 feet. A deep water area with a controlling depth of 6 feet at mean low water exists at the north, bay side entrance to the inlet. From the inlet, the channel to the Intracoastal Waterway is well defined with a controlling depth of 6 feet at mean low water and with a controlling width of 120 feet.

4. The mean tidal range in the ocean at the inlet is 3.3 feet. At strength of current, the maximum velocity through the inlet is about 5.2 feet per second on the flood tide and about 6.5 feet per second on the ebb tide. The average velocities are estimated at 1.9 feet at flood tide and 2.2 feet at ebb tide.

5. Moriches Bay extends 12.8 miles from Smith Point at its western end where it adjoins Great South Bay to Potunk Point on its eastern end where it connects with Shinnecock Bay through Quantuck and Quoque Canals. Depths below mean low water in the bay average about 4 feet with a maximum depth in the main body at 17 feet and in Narrow Bay at 12 feet. The northern side of the bay at the mainland

is indented with drawn valleys of numerous streams that drain into it. The largest of these are Forge River and Seatuck Creek. Seawater of varying salinity prevails in the greater parts of the bays and therefore these waters are not normally affected by ice conditions. The mean range of tide in the bay is 0.3 feet. The highest tide of record during 21 September 1938 hurricane was 15.7 feet above mean low water.

6. EXISTING IMPROVEMENTS. The inlet was improved by the State of New York in cooperation with the County of Suffolk and Town of Brookhaven by dredging the channel and by the construction of stone revetments and jetties on both sides in 1952, 1953, and 1954 (Figure 2). The east jetty at Moriches Inlet is 846 feet long and the west jetty is 1.461 feet long. There has been no improvement of the inlet by the Federal Government. However, a Federal improvement, known as Long Island Intracoastal Waterway and authorized by the River and Harbor Act of 1937, extends across the bay with a width of 100 feet and a depth of 6 feet at mean low water (Figure 1). In addition, a bay channel, 6 feet deep at mean low water and 100 feet wide, from the northern end of the inlet to the Long Island Intracoastal Waterway was dredged in 1943 by the Corps of Engineers for the Navy Department.

7. NEED OF INLET STABILIZATION. The stabilization of the inlet is most essential to successful abatement of the pollution problem in Moriches Bay in the interest of fish and wildlife and recreation; to safe navigation; and to stabilization of downdrift shore. The effect of a closed and open Moriches Inlet on the pollution conditions in the bay were evaluated in a study made by Wood Hole Oceanographic Institute in 1950-1957 in the interest of the shellfish industry. Briefly, in 1950, before the inlet closed, the salinity in Moriches Bay averaged 28 parts per thousand or about 85 percent of sea water, the excess amount of phosphorus (over that normally present in sea water) averaged 7.51 microgram atoms per liter, the saturation of oxygen ranged from 70 to 100 percent and the transparency, as expressed in depth to which a white disk can be seen, from 3.5 to 5 feet. In 1951, with the inlet closed, the average salinity in the bay decreased to 19.7 parts per thousand or 61 percent of sea water, the excess phosphorus content was 23.6 microgram atoms per liter, the oxygen saturation ranged from 30 to 75 percent, and the transparency from 1.5 to 2.5 feet. In 1954, after reopening of the inlet, conditions in the bay changed again. The salinity increased to about the same level as in 1950, the excess phosphorus content averaged 5.43 microgram atoms per liter and the transparency increased

to 5 feet or more, more or less the same conditions that prevailed at the time the inlet was opened.

8. In 1950 the Woods Hole report concluded that the unsatisfactory condition of Great South Bay for the production of oysters was the result of excessive pollution by organic matter, partly originating in Moriches Bay. The closure of Moriches Inlet in 1951 has the effect of greatly retarding the escape of pollutants from Moriches Bay and more of the pollutants reached Bellport Bay than prior to the closure. The 1954 Woods Hole report, which was made after additional investigations, concluded as follows: "It is imperative that Moriches Inlet be maintained in as open a condition as possible. Closure of the inlet would certainly be followed by the 'cesspool-like' condition of Moriches Bay experienced from 1951 to 1953. Further decrease in the concentration of pollutant chemicals in the bay waters may not be expected without further and more effective employment of sanitary engineering practices on the duck farms." The 1954 report further found that when the Moriches Inlet was opened, the tidal exchange between Moriches Bay and Bellport Bay is reduced and the condition in Bellport Bay and Great South Bay is improved. The 1956 Woods Hole report based on a survey made during August of that year found that pollution in Great South Bay had not

abated and that the improved conditions for the growth of shellfish that were noted may be ascribed entirely to the tidal flushing through Moriches Inlet. The 1957 report concluded that if improved conditions in Great South Bay are to continue, it is mandatory that Moriches Inlet be widened, deepened and stabilized as quickly as possible.

9. AUTHORIZED IMPROVEMENT. By the 1960 River and Harbor Act, the plan of improvement was authorized for Moriches Inlet and provides for a channel 10 feet deep at mean low water and 200 feet wide, extending from deep water in the Atlantic Ocean to Moriches Bay, a distance of about 0.8 mile; thence a channel 6 feet deep at mean low water and 100 feet wide to the Long Island Intracoastal Waterway, a distance of about 1.1 miles with widening at bends; for rehabilitation of existing stone jetties and revetments; for oceanward extension of the east jetty to the 12 foot contour depth at mean low water and the west jetty a distance of 400 feet; and for a by-passing plan to transfer sand from the east side of the inlet to a feeder beach on the west side.

10. The estimated cost of the project is $6,980,000 for initial construction and $220,000 for annual maintenance and operation costs. The estimated cost to the United States is estimated at $3,900,000 of the first cost

and $110,000 of the annual maintenance and operation costs provided that local interest agree to contribute in cash about 45 percent of the first cost, presently estimated at $3,080,000 and 50 percent of the annual maintenance and operation costs, presently estimated $110,000, and provided further that local interest agree: (a) to make the cash contribution either in a lump sum prior to commencement of the work, or in installments prior to commencement of pertinent work items, in accordance with work scheduled as required by the Chief of Engineers, the final apportionment of cost to be made after actual costs have been determined; (b) to furnish, free of cost to the United States, all lands, easements, rights-of-way, and suitable spoil-disposal areas for the initial work and for subsequent maintenance, when and as required; and (c) to hold and save the United States free from damages due to the construction and maintenance of the project; (d) to provide and maintain suitable terminal facilities when and as required for the accommodation of vessels that would navigate the inlets and adjacent bays, open to all on equal terms; (e) to maintain, for the duration of the economic life of the project, continued public ownership of the publicly owned shores and their administration for public use, and continued availability for public use of the privately owned shores upon which a portion of the Federal

share of the cost is based; and (f) to establish regulations prohibiting discharge of untreated sewage, garbage and other pollutants in the waters of the bay by users thereof, which regulations shall be in accordance with applicable laws or regulations of Federal, State and local authorities responsible for pollution preservation and control.

11. STATUS OF PROJECT. In fiscal year 1967, Congress appropriated $100,000 to initiate preconstruction planning. The balance of funds ($260,000) required to complete preconstruction planning are currently programmed by the Corps of Engineers for fiscal year 1968 and 1969. This schedule provides for completion of contract documents by 30 June 1969 and need of construction funds in fiscal years 1970 and 1971. The local interest would therefore have to be prepared to accomplish local cooperation including the cash contributions by July 1969.

12. The Corps of Engineers have initiated measurements in the field as to tides, currents, velocities, and topography, and design and construction of a hydraulic model at the Waterways Experiment Station in Vicksburg, Mississippi to test the authorized inlet improvement as to a plan of by-passing the sand from the east to the west of the inlet, of removing interior bay and inlet shoals, and of extending the jetties as to lengths and directions. The

Corps of Engineers plans in fiscal year 1968 to complete the model studies, and initiate the preparation of contract documents, and in fiscal year 1969 to complete the preparation of contract documents ready for advertisement. There are no funds for initiation of construction for this project in the announced Presidential budget for fiscal year 1968.

13. OTHER PERTINENT STUDIES. A survey of water resources and related land uses of the Great South Bay, New York, including the waters of the adjoining lesser bays and inlets, was authorized in Section 209 of the Flood Control Act (Title II, Public Law 89 - 789) approved 7 November 1966. Such an investigation and study by the Corps of Engineers with the coordinated assistance of interested Federal and local interests would include but not be limited to navigation, fisheries, flood control, control of noxious weeds, water pollution, water quality, beach erosion, and recreation. However, no funds are available under this authority.

14. The Federal Water Pollution Control Administration under Section 3 of the Water Quality Act, approved October 1966, is carrying out a comprehensive study of water quality management program for the Hudson River, Lake Champlain, and Metropolitan Coastal area. The purpose of the study is to provide State and local people with data on which

to make rational decisions as to waste treatment needs that would be commensurate with the protection of existing water uses and with possible enhancement of existing water quality to provide for higher uses.

15. Section 214 of the River and Harbor Act of 1965, provides authority for the Corps of Engineers to undertake water resources planning in cooperation with the State of New York which under the Department of Conservation and local agencies is in the process of making an overall plan for the development of all of the State's natural resources which include the Great South Bay and the adjoining bays on the south shore of Long Island.

16. RECOMMENDATIONS. To meet the objective of the enforcement conference on water pollution in Moriches Bay and Eastern Great South Bay, Long Island, New York, the coordinating committee considers that there should be a practical short term and a long term approach to the problem of water recirculation and flow as it affects pollution abatement in Moriches and Eastern Great South Bays. Therefore the Coordinating Committee recommends the following actions for the short term approach:

a. The completion of the Moriches Inlet stabilization project should be advanced. Actions should be initiated through local, State and Federal channels to obtain

an allotment of $500,000 in the Federal budget for fiscal year 1968 to complete planning and to initiate construction. Subsequent action should be taken to obtain additional Federal construction funds to bring the project to rapid completion commensurate with good engineering and construction practices. Such a schedule will coincide and be in phase with the schedule for the construction of pollution abatement facilities at the duck farms as developed at this enforcement conference.

b. The local cooperating agency (the State of New York and the County of Suffolk) should implement the conditions of local cooperation including the cash contribution so as to be in phase with the Federal financing of the project for the inlet stabilization.

17. For the long term approach, the Committee strongly supports the proposed feasibility study and construction of a model of the Great South Bay and adjoining bays. Data obtained on the model together with full scale data from the bays would provide much information and means of arriving at long range solution of the various problems which are plaguing these bays.

That concludes the first recommendation relative to the inlets. The second item is the duck waste problem.

DUCK WASTE

Background Duck Waste

The duck farms presently operating in the area under consideration are constructed as follows:

Ducks are housed in buildings with free access to a sand covered duck run. The lower end of this run terminates in a ditch or a concrete water trough. All water from this ditch or trough goes to a sump at the low end of the duck runs where it is pumped up to a series of two or more settling lagoons, which provide a form of primary treatment. Final effluent is then discharged to the receiving waters.

Each lagoon is used 30 days or until sludge bulks on the surface. The lagoon is then taken out of service and allowed to dry. Upon drying the lagoon is cleaned and the sludge is used for landfill.

The State abatement program, started in 1951, required that duck raisers first dike all duck pens so that ducks were not raised on natural waters. This has been accompliahed in the study area.

The second step of the State abatement program called for effective settling of all duck wastes. This was

done by providing a series of upland lagoons to provide 4-hour settling for the wastes. It was recommended that an adequate number of lagoons be provided to handle a full year's flow.

Steps number three and four of the State program called for effective disinfection and removal of certain nutrients prior to discharge. This portion of the program has not yet been accomplished. Formal abatement orders have recently been issued on all duck farms in the area. These orders require secondary treatment with 85 percent removal of suspended solids and biochemical oxygen demand, effective disinfection and the removal of phosphates. A copy of a typical order is included in this report.

A treatment method to meet these standards is now under study and a full-scale pilot plant is now in operation to evaluate the findings arrived at by laboratory studies.

The duck farm water pollution abatement schedule, as outlined in the orders, has been substantially complied with to date by the duck farmers. All except one of the duck farmers, including the Eastport Duck Processing Plant, located within the conference study area have submitted preliminary plans for their waste treatment facilities. The Paul Chornoma Duck Farm has not submitted a preliminary plan. However, it is understood that this farm will go out of operation.

The Carman River Duck Farm has submitted preliminary plans for treatment, as required by the abatement plan time schedule; however, the chemical treatment method proposed is untried, and this method is being reviewed by consulting engineers.

The next step in the abatement plan time schedule is the submission of final construction plans in approvable form, on or before August 1, 1967, with construction to be initiated by November 1, 1967.

The pilot plant referred to in the conferees' reports was constructed at the DePiazzy Duck Farm in Moriches, Town of Brookhaven, following the design data outlined in the report by William F. Cosulich, Consulting Engineer, entitled "Treatment of Wastes from Long Island Farms," March 1966. The plant consists of an aerated lagoon with a five-day detention period. The lagoon is provided with a five horsepower mechanical aerator (Wells Aqualator) which provides 1.4 pounds of oxygen per pound of BOD. The aeration lagoon has a liquid depth of eight (8) feet. The effluent from the aerated lagoon flows to either of two settling lagoons, each having a one-day detention time. Prior to discharge to the receiving stream, the effluent is chlorinated and passed through a chlorine contact tank, providing 30 minutes detention. The pilot plant is treating a flow of 50,000 gallons

per day, which is a minor portion of the DePiazzy Farm's total daily flow.

The construction of the pilot plant was financed by the duck industry. The State Department of Health pledged some $6,000 toward the operational costs involved. In addition, the State Department of Health is providing the laboratory services for evaluating the effectiveness of the treatment. Preliminary laboratory results on the removal of BOD and suspended solids have been encouraging. A summary of these results is included in this report.

It is planned to continue the evaluation of the treatment, including the reduction of phosphates by the addition of lime, coupled with pH adjustment, and the effectiveness of disinfection of coliform organisms by chlorination. Also, sludge measurements and sludge analyses are planned in both the aeration and settling lagoons.

Upon completion of the abatement plan time schedule (April 30, 1968) when all duck farms are to have constructed approved treatment facilities for all liquid duck wastes, the remaining problem to be solved is the operation and maintenance of the completed treatment facilities. It is strongly recommended that the duck farmers, through their present organization, the Long Island Duck Farmers Cooperative, set up an adequate, trained and equipped staff

in order to, thereafter, maintain and operate these treatment facilities at all times in conformance with effluent standards.

I am moving over to Page 34 now, which is the third item.

DOMESTIC WASTES

Background

There were more than 31,000 people residing in the study area according to 1960 census figures.

The only area presently served with a public sewer is the business district of Patchogue Village serving an estimated 5,000 people.

The study area and all of Suffolk County depend upon groundwater sources for their water supply. Private subsurface sewage disposal systems discharge to the groundwater. Contaminants from these wastes enter the groundwaters and ultimately flow to the bay areas. The bacteria and solids are essentially removed in the travel through the soil to the groundwater, but nitrates and phosphates can enter the bay area affecting ecological balance of the receiving waters. There are undoubtedly direct discharges from some private individual systems into the surface waters. It will require a detailed study to determine the extent of this problem.

Although no industrial waste and effluents enter the surface waters, fertilizers and pesticides from agricultural and residential use find their way into the various water courses.

The present discharge from the Village of Patchogue sewage treatment plant increases the BOD loading in Patchogue Creek and adversely affects Great South Bay.

Discussion

Because of the complete lack of sewers and the great need for them, the New York State Health Department in 1963 authorized a comprehensive sewerage study for the Five Western Towns at a cost of $660,000. The complete study called for sewering of the entire area starting with the three western towns known as Sewer District #1.

The study area was to be included in Sewer District #2 which would incorporate the Patchogue Village sewage treatment plant. Plans for upgrading the treatment at Patchogue were not implemented awaiting the progress of County Sewer District #1.

The referendum for District #1 held on February 28, 1967 was defeated and probably will not be presented to the voters again for a minimum of one year. Therefore, it would appear to be a period of many years before the Patchogue area would be sewered as a part of a County Sewer District. In view of this fact, the Village of Patchogue should be re-

quired to construct a secondary treatment plant and obtain State and Federal aid for this project. The possibility of expansion of the plant to take in the remainder of the Village and perhaps some of the surrounding area should be explored at this time.

The 1966 State Legislature enacted legislation providing for the control of waste discharges from boats. The legislation provides for evaluation and approval of holding tanks and treatment facilities as well as onshore treatment works by the State Health Department. Enforcement activity is the general responsibility of the State Conservation Department and local enforcement personnel.

The effective date of that statute is July 1, 1968, and rules and regulations are in the process of being developed by the Division of Motor Boats and the Division of Pure Waters.

We propose the following abatement schedule be followed by the Village of Patchogue:

Submit preliminary plans January 1, 1968;

Submit final plans June 1, 1968;

Start construction Novembet 1, 1968; and

Complete construction November 1, 1969.

The ordered abatement schedule is in substantial conformance with other schedules in the conference area.

That concludes the area on domestic wastes. The

final charge to the Committee involved the duck sludge removal and disposal from the bays and inlets.

DUCK SLUDGE REMOVAL AND DISPOSAL

For many years effluents from duck farms have flowed into the tributaries on the north side of eastern Great South Bay and Moriches Bay. These effluents have been composed of sludge high in nitrates and phosphates, and liquid effluents laden with suspended solids and high in coliforms. The sludge and suspended solids have been and are still being deposited in these tributaries, with the deepest layers nearest the source of contamination and gradually tapering off toward the open Bay waters.

The major creeks and branches affected include Speonk River, Seatuck Cove, Terrell River, Carmans River, Forge River, with other smaller creeks affected adversely where duck farms are located adjacent to the shore.

These accumulated sludge deposits have changed the ecology of the creeks and influenced the water chemistry of Moriches and Great South Bay. The creeks have become incapable of producing shellfish, and adjacent waters are polluted to the point where the shellfish growing there are unsafe to use. The leaching of phosphates and nitrates from these deposits continually adds nutrients to the Bay system

which periodically exhibits excessive plant growth.

Various scientific studies of Great South Bay by independent research institutions have demonstrated that blooms of chlorella-like organisms are traceable to the duck farm effluents. These blooms are so extensive that shellfish in Great South Bay - considerable distances from the source of pollution - have become of poor quality and are unmarketable.

The Town of Brookhaven recognized that duck deposits were damaging the environment of the Bays. In the last four years, they have taken some remedial action on certain tributaries. The Suffolk County Department of Public Works has dredged channels in Forge River and the Seatuck Cove for the dual purpose of facilitating boating and reducing the sludge. Both of these purposes have been accomplished to some extent although the percentage of the sludge deposits removed has not been determined precisely.

While there has been agreement among interested levels of government and private groups that sludge removal is desirable, the disposal of the waste has posed a difficult problem.

Several alternatives are possible although all have some disadvantages. They are:

1. Deposit the sludge on adjacent uplands or

wetlands.

2. Deposit the sludge into diked areas around islands in the Bay.
3. Pump the sludge into the Atlantic Ocean.
4. Develop some economic use for sludge such as a concentrated fertilizer or soil conditioner.

Disposal thus far has been on nearby wetlands or uplands or into the Atlantic Ocean. Sludge from the Forge River project was spoiled on Fire Island wetlands. This action deteriorated the environment in the disposal area and has rendered the area unusable for indefinite time in the future. This method of disposal within the enforcement area is undesirable and is not recommended. On the other hand, the disposal of sludge in the ocean in the Seatuck Cove dredging project seems to have had no long-term ill effects on the adjacent sea area or on the Bay complex adjacent to Moriches Inlet.

The extent of the deposits of sludge in the enforcement area is unknown, except in general terms, as is shown in Exhibit A, attached to the report. It is recommended that the following action be taken for the enforcement areas:

1. (a) The creeks on which duck farms are

located be surveyed to delineate accurately the extent and composition of the sludge, including those where channel dredging has taken place and adjacent area where deposits may exist. This study should be made immediately and completed by September 1, 1967.

Several governmental agencies are in a position to participate in such a survey. These include the Suffolk County Department of Public Works, Suffolk County Health Department, New York State Conservation Department, New York State Department of Health, U. S. Department of the Interior through their Fish and Wildlife Service and Water Pollution Control Administration, and the U. S. Army Corps of Engineers. It is proposed that New York State act as the coordinating agency to carry out this survey and make available supplemental funds to complete the study in the specified period. The estimated cost is $25,000.

(b) It is apparent that spoiling of duck

sludge has deteriorated certain lands. A study should be undertaken to determine measures necessary or desirable to rehabilitate such areas. The investigation should include the extent of stabilization of the spoil deposits, further development and best use of such lands, and recommendations for implementation of a rehabilitation program. Such a study may require a considerable period of time. It is desirable to initiate the study at the earliest practical date so that the rehabilitation plan may be implemented in the foreseeable future. The Department of the Interior should have the responsibility of carrying out such studies.

2. Once the study and survey in Item 1 (a) has been completed on the sludge deposits, a systematic program should be developed and put into effect to handle future duck sludge dredging operations in the enforcement area. It will not be possible to estimate the cost of the dredging until

the basic survey in Item 1 (a) has been completed.

A proposal for the implementation of this phase of the program will involve extensive costs. Since these are not predictive at this time, it is recommended that steps be taken by the conferees to carry out this part of the abatement plan.

3. It is recommended the sludge dredged in the enforcement area from Patchogue River to the eastern end of Moriches Bay be pumped to the ocean. No spoiling of duck wastes from this area should be placed on wetlands or in the waters of the adjacent bays. Almost all of the creeks containing duck wastes are within 3 miles of the Ocean. Pumping these deposits this distance and even greater has been demonstrated to be a practical operation in the Forge River and Seatuck Cove projects (see Exhibit A).

There are certain concerns about ocean outfall. First, Fire Island beach

areas might become contaminated by coliform bacteria thus damaging the National Seashore. Secondly, there is some danger that excessive nutrients and coliform might be carried back into Moriches Bay through the Inlet if the ocean discharge point is in close proximity to the Inlet. Thirdly, surf fishing in the spring and fall might be influenced adversely. To minimize damage in each of these problem areas the ocean disposal should be carried out as follows:

1. Dredging and ocean disposal undertaken only from October 15 through May 15.
2. Spoil would be disposed of directly into the ocean below the low water level.
3. The spoil release point be approximately 1.5 miles away from Moriches Inlet and further where practical.
4. It is further recommended that during the time when duck sludge is being pumped to the ocean that a surveillance program be established to regularly measure

nutrients, suspended solids, and coliforms. This would permit prompt revision of dredging operations should adverse conditions be indicated.

This surveillance should be coordinated by the State of New York with participation at all levels of government.

We now come to the Conclusions and Recommendations. You will note that they are repetitive, but I think it is a good summary and they are worth repeating.

CONCLUSIONS AND RECOMMENDATIONS

1. The completion of the Moriches Inlet stabilization project should be advanced. Actions should be initiated through local, State and Federal channels to obtain an allotment of $500,000 in the Federal budget for fiscal year 1968 to complete planning and initiate construction. Subsequent action should be taken to obtain additional Federal construction funds to bring the project to rapid completion commensurate with good engineering and construction practices. Such a schedule will coincide and be in phase with the schedule for the construction of pollution abatement

facilities at the duck farms as developed at the enforcement conference.

2. The local cooperating agency (the State of New York and the County of Suffolk) should implement the conditions of local cooperation including the cash contribution so as to be in phase with the Federal financing of the project for the inlet stabilization.

3. The Committee strongly supports the proposed feasibility study and construction of a model of the Great South Bay and adjoining bays. Data obtained from operation of the model together with full scale data from the bays would provide much basic information required to devise a comprehensive solution of the interrelated problems which are plaguing the bays.

4. It is recommended that the time schedules of the ord[illegible] of the New York State Health Department requiring secondary [illegible]tment of the duck farm wastes be maintained and that vigorous enforcement procedures be followed in the case of any default.

5. It is strongly recommended that the duck farmers, through their present organization, the Long Island Duck Farmers Cooperative, set up an adequate, trained and equipped staff in order to, thereafter, maintain and operate treatment facilities installed at duck farms at all times

in conformance with effluent standards.

6. The Village of Patchogue should be required to construct a secondary treatment plant; State and Federal financial aid for this project should be provided. The possibility of expansion of the plant to serve the remainder of the Village and perhaps some of the surrounding area should be explored at this time.

7. The creeks on which duck farms are located should be surveyed to delineate accurately the extent and composition of the sludge, including those where channel dredging has taken place and adjacent areas where deposits may exist. This study should be made immediately and completed by September 1, 1967.

8. It is apparent that spoiling by duck sludge has deteriorated certain lands. A study should be undertaken to determine measures necessary to rehabilitate such areas.

9. A systematic program should be developed and put into effect to handle future duck sludge dredging operations in the enforcement area.

10. It is recommended the sludge dredging in the enforcement area from Patchogue River to the eastern end of Moriches Bay be pumped to the ocean for release. No spoiling of duck wastes from this area should be placed on wetlands or in the waters of the adjacent bays. Ocean disposal should be

carried out as follows:

(1) Dredging and ocean disposal undertaken only from October 15 through May 15.

(2) Spoil to be disposed of directly into the ocean below the low water level.

(3) The spoil release point to be approximately 1.5 miles away from Moriches Inlet and further where practical, unless a lesser distance is indicated at the time of the application for the dredge permit.

11. It is further recommended that during the time that duck sludge is pumped to the ocean, a surveillance program be established to regularly measure nutrients, suspended solids, and coliforms. This would permit prompt revision of dredging operations should conditions indicate such need.

This completes the narrative section of the report. You will notice that we included in the report a rather extensive bibliography of past reports and studies which have been made of this general area. There are some 60 items, in case anybody wants to do some additional studying.

MR. STEIN: Without objection, the entire report will be included in the record, as if read.

(The Appendix to the report is as follows:)

EXAMPLE OF TYPICAL ORDER

STATE OF NEW YORK : DEPARTMENT OF HEALTH

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IN THE MATTER of the Complaint against:

Poultry Farm,

Respondent,

by Reason of Alleged Violations of Article 12 of the Public Health Law.

----------x

STATE OF NEW YORK : DEPARTMENT OF HEALTH

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IN THE MATTER of the Hearing to Receive Evidence Relevant to such Action, if any, as should be Taken in Regard to Modification or Revocation of Permits to Discharge Waste Effluents into

issued to:

Poultry Farm

Respondent,

or the Predecessors or Assignors

----------x

ORDER

A public hearing in the above entitled proceedings

having been returnable herein pursuant to due written notice served in the manner provided by law and the convening of said hearing having been waived by the parties and the New York State Department of Health having appeared generally therein by its Counsel, DONALD A. MacHARG, DERMOT C. REILLY of Counsel, and the Respondents having appeared generally therein by their Attorneys, GREENWALD, KOVNER & GOLDSMITH of New York City, and documentary exhibits having been received on behalf of said Department, and said Counsel for said Department and said Attorneys for Respondent having entered into a written Stipulation that facts exist upon which this Order might be made, served and filed, and said Hearing Officer having approved said Stipulation,

NOW, on reading and filing the notice of hearing and admission of service thereof and stipulation and due deliberation having been had, it is ORDERED:

1. THAT the Stipulation aforesaid be and the same hereby is approved and the facts therein are found and the conclusions therein are arrived at.

2. THAT all Orders of the Water Pollution Control Board of the State of New York directed to or against the Respondents or any of them be and they hereby are modified to provide that the Respondents shall, and each of said Respondents is hereby Ordered and directed, on and after

January 2, 1967, to cease and abate, and thereafter keep abated, all discharges of duck wastes and duck processing wastes by him or it or through or from lands or facilities owned by him or it or under his or its management or control into the waters of the State unless said Respondent shall, either individually or in conjunction with others:

(a) On or before January 1, 1967, submit to the New York State Department of Health, through the Suffolk County Health Department, preliminary plans showing facilities for biological treatment of all such wastes and/or effluents thereof to the extent that at least 85 percent of the suspended solids and at least 85 percent of the biochemical oxygen demand and a substantial portion of the phosphates thereof and therein shall be removed and facilities for disinfecting such wastes and/or waste effluents to the extent that the final effluent shall at all times contain a chlorine residual of not less than one half part per million after not less than 15 minutes contact time and an MPN of coliform organisms not greater than 100 per ml. in at least 90 percent of the samples in a series thereof, provided that at no time may the MPN of such organisms in said final effluent exceed 10,000 per 100 ml.

(b) On or before August 1, 1967, submit final construction plans in approvable form, prepared by or under

the direction of a duly licensed professional engineer, for such facilities.

(c) On or before November 1, 1967, initiate construction of such facilities.

(d) On or before April 30, 1968, cause construction of such facilities in accordance with approved plans to be completed.

(e) Thereafter maintain and operate said facilities in such manner that they shall at all times meet the performance criteria set forth in decretal provision 2 (a) hereof and that the standards of no waters of the State shall be contravened by reason of the wastes aforesaid or their effluents.

3. THAT any and all permits for the discharge of wastes or waste effluents into the waters of the State issued to the Respondents or to any of them or any of their predecessors or assignors by or on behalf of the New York State Department of Health or the Commissioner of Health of the State of New York or the Water Pollution Control Board be and they hereby are modified, effective May 1, 1968, or upon default of performance of any of the alternative decretal provisions hereof prior thereto, to refer and relate to and permit only the discharge of waste effluents treated in the facilities construction of which is hereby alternatively

ordered, and as so modified, are continued.

DATED: Albany, New York

HOLLIS S. INGRAHAM, M.D.
Commissioner of Health of
the State of New York

TO: WATER RESOURCES COMMISSION

GREENWALD, KOVNER & GOLDSMITH
Attorneys for Respondent

Robert D. Hennigan

LONG ISLAND DUCK WASTE STUDY PILOT PLANT RESULTS

TOTAL SUSPENDED MATTER (ppm.)

Date	Raw Waste	Lagoon Effluent	Final Effluent
12-12-66	---	---	---
12-15-66	606		---
1- 5-67	842	---	26
1-12-67	450	---	22
1-16-67	522	---	48
1-23-67	604	---	21
1-26-67	196	---	11
1-30-67	96	---	16
2- 2-67	654	---	10
2- 9-67	372	---	17
2-14-67	266	---	11
2-16-67	158	---	13
2-20-67	138	35	16
2-23-67	200	58	4.0
2-27-67	154	22	14
3- 2-67	98	22	16
3- 6-67	810	70	19
3-16-67	220	35	2.0
3-20-67	406	28	13
3-30-67	76	200	6
4- 3-67	184	52	16

LONG ISLAND DUCK WASTE STUDY PILOT PLANT RESULTS

NITRATE-N (ppm.)

Date	Raw Waste	Lagoon Effluent	Final Effluent
12-12-66	---	---	---
12-15-66	6.6		
1- 5-67	0.13	---	0.30
1-12-67	0.60	---	0.10
1-16-67	0.30	---	0.10
1-23-67	0.15	---	0.14
1-26-67	0.25	---	0.15
1-30-67	2.5	---	1.4
2- 2-67	2.0	---	1.8
2- 9-67	0.42	---	0.16
2-14-67	2.0	---	2.5
2-16-67	3.5	---	1.6
2-20-67	2.0	0.90	1.0
2-23-67	1.5	1.2	0.85
2-27-67	3.4	2.7	2.5
3- 2-67	3.3	3.2	1.9
3- 6-67	2.6	0.68	2.3
3-16-67	0.95	0.72	0.72
3-20-67	2.5	1.8	1.3
3-30-67	2.9	0.55	0.40
4- 3-67	0.95	0.45	1.00

LONG ISLAND DUCK WASTE STUDY PILOT PLANT RESULTS

TOTAL PO_4 (ppm.)

Date	Raw Waste	Lagoon Effluent	Final Effluent
12-12-66	---	---	---
12-15-66	87.5	---	---
1- 5-67	100	---	37.4
1-12-67	50.0	---	22.5
1-16-67	50.0	---	22.5
1-23-67	50.0	---	22.5
1-26-67	22.5	---	12.5
1-30-67	30.0	---	20.0
2- 2-67	40.0	---	12.5
2- 9-67	50.0	---	12.5
2-14-67	30.0	---	10.0
2-16-67	30.0	---	9.0
2-20-67	20.0	10.0	10.0
2-23-67	30.0	12.5	10.0
2-27-67	20.0	10.0	10.0
3- 2-67	20.0	14.0	14.0
3- 6-67	90.0	14.0	10.0
3-16-67	20.0	22.5	15.0
3-20-67	65.0	17.5	15.0
3-30-67	24.0	40.0	25.0
4- 3-67	38.0	25.0	22.0

Robert D. Hennigan

LONG ISLAND DUCK WASTE STUDY PILOT PLANT RESULTS

SOLUBLE PO_4 (ppm.)

Date	Raw Waste	Lagoon Effluent	Final Effluent
12-12-66	---	---	---
12-15-66	37.5	---	---
1- 5-67	6.6	---	12.4
1-12-67	7.4	---	8.3
1-16-67	16.6	---	8.3
1-23-67	6.2	---	6.2
1-26-67	9.4	---	6.2
1-30-67	12.5	---	15.0
2- 2-67	20.0	---	10.0
2- 9-67	17.5	---	10.0
2-14-67	17.5	---	4.5
2-16-67	15.0	---	7.5
2-20-67	10.0	5.0	5.0
2-23-67	17.5	7.5	9.0
2-27-67	12.5	7.5	7.5
3- 2-67	14.0	10.0	10.0
3- 6-67	50.0	12.5	10.0
3-16-67	12.5	22.5	15.0
3-20-67	35.0	15.0	12.5
3-30-67	15.0	28.0	22.0
4- 3-67	28.0	25.0	19.0

Robert D. Hennigan

LONG ISLAND DUCK WASTE STUDY PILOT PLANT RESULTS

BOD - 5 DAY

Date	Raw Waste	Lagoon Effluent	Final Effluent
12-12-66	294	---	---
12-15-66	312	---	---
1- 5-67	213	---	28
1-12-67	191	---	34
1-16-67	163	---	24
1-23-67	120	---	15
1-26-67	145	---	4
1-30-67	64	---	---
2- 2-67	248	---	10
2- 9-67	198	---	23
2-14-67	130	---	16
2-16-67	128	---	---
2-20-67	75	27	20
2-23-67	90	28	10
2-27-67	64	19	9
3- 2-67	112	25	28
3- 6-67	340	39	24
3-16-67	580	42	62
3-20-67	150	19	10
3-30-67	35	80	24
4- 3-67	123	23	11

Robert D. Hennigan

GREAT SOUTH BAY

LONG ISLAND, N. Y.

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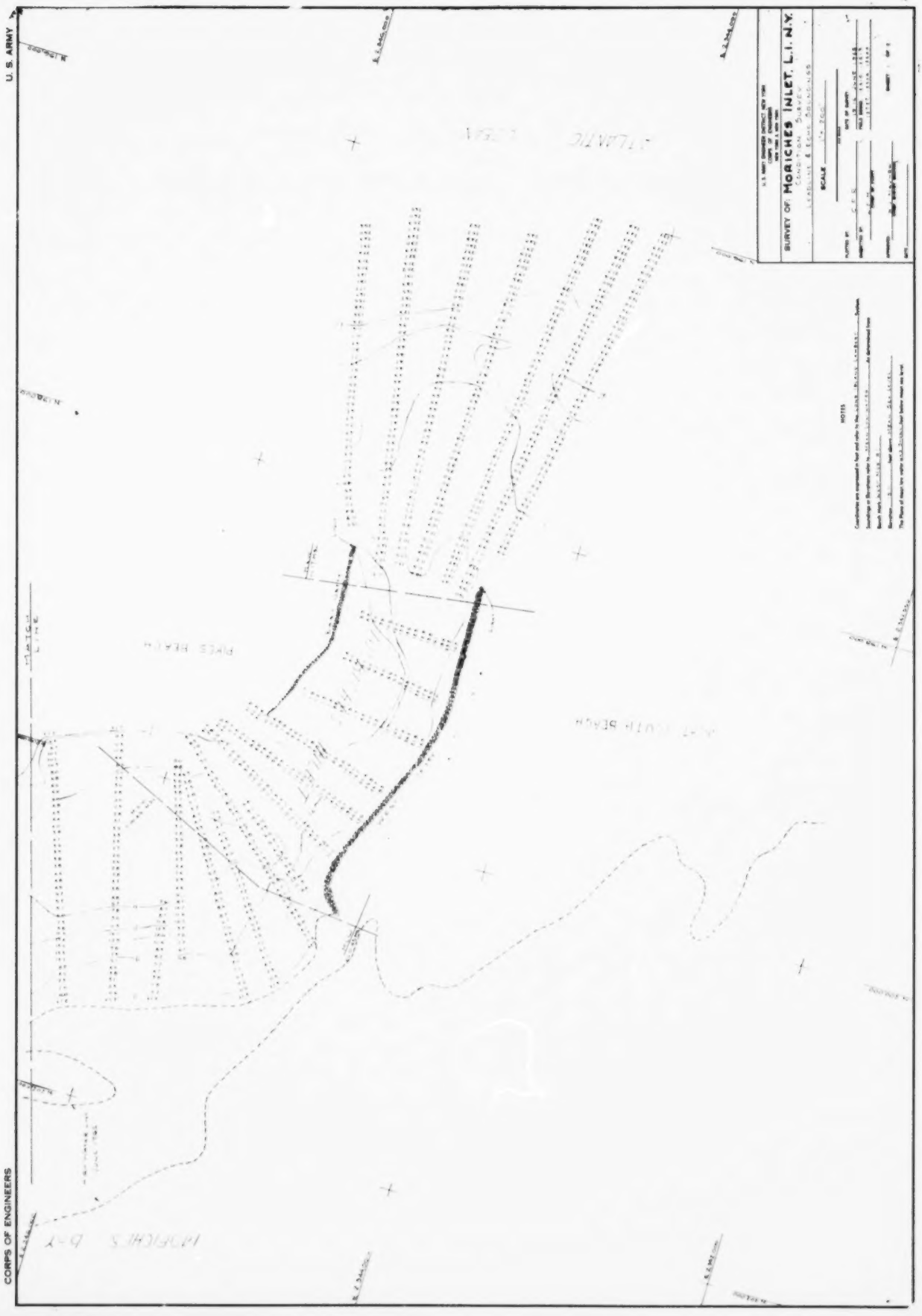
U. S. ARMY
CORPS OF ENGINEERS
SURVEY OF MORICHES INLET, L.I. N.Y.
CONDITION SURVEY
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PIKES BEACH
MORICHES BAY

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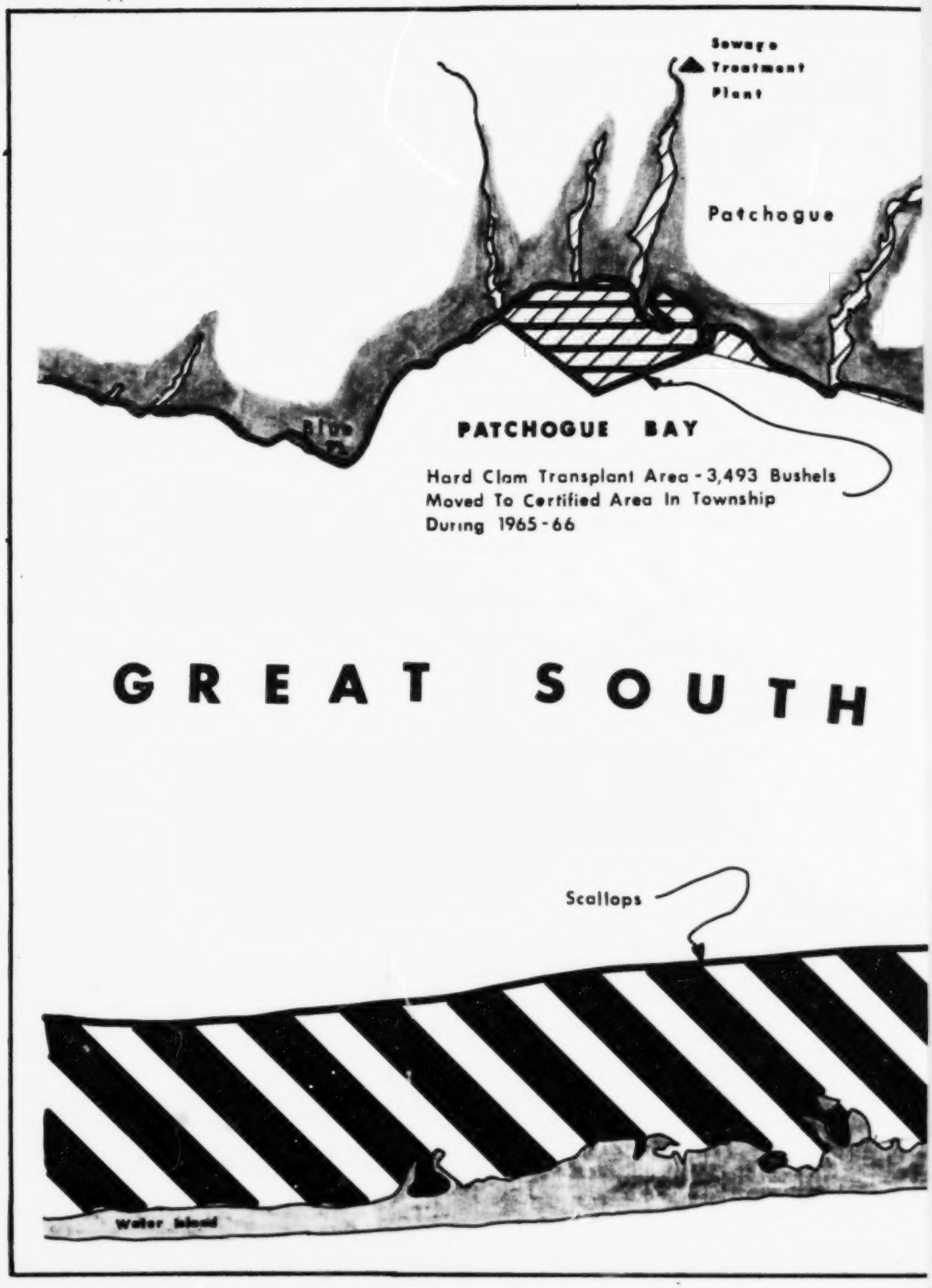
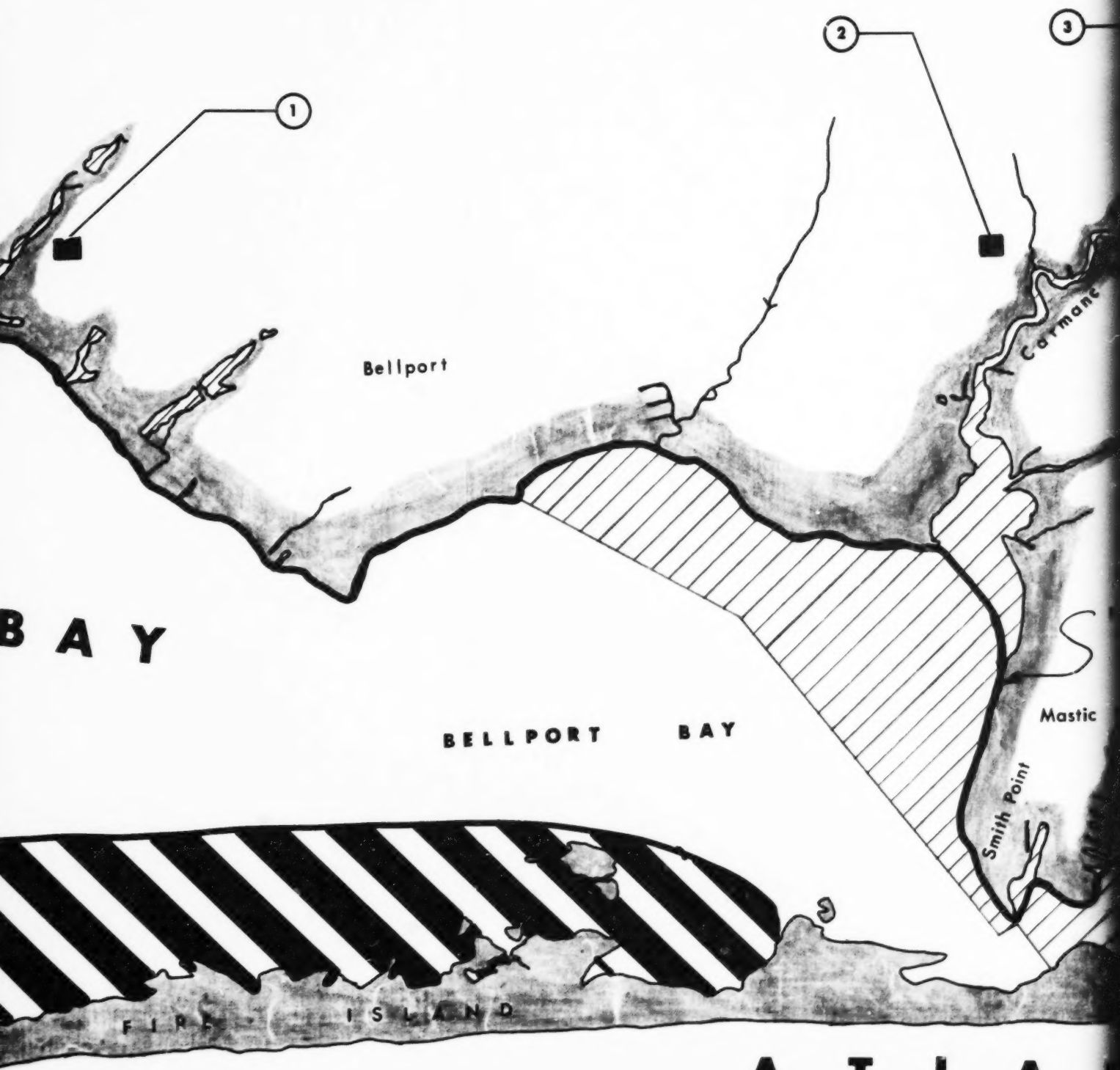

Sewage
Treatment
Plant
Patchogue
PATCHOGUE BAY
Hard Clam Transplant Area - 3,493 Bushels
Moved To Certified Area In Township
During 1965-66
GREAT SOUTH
Scallops
Water Island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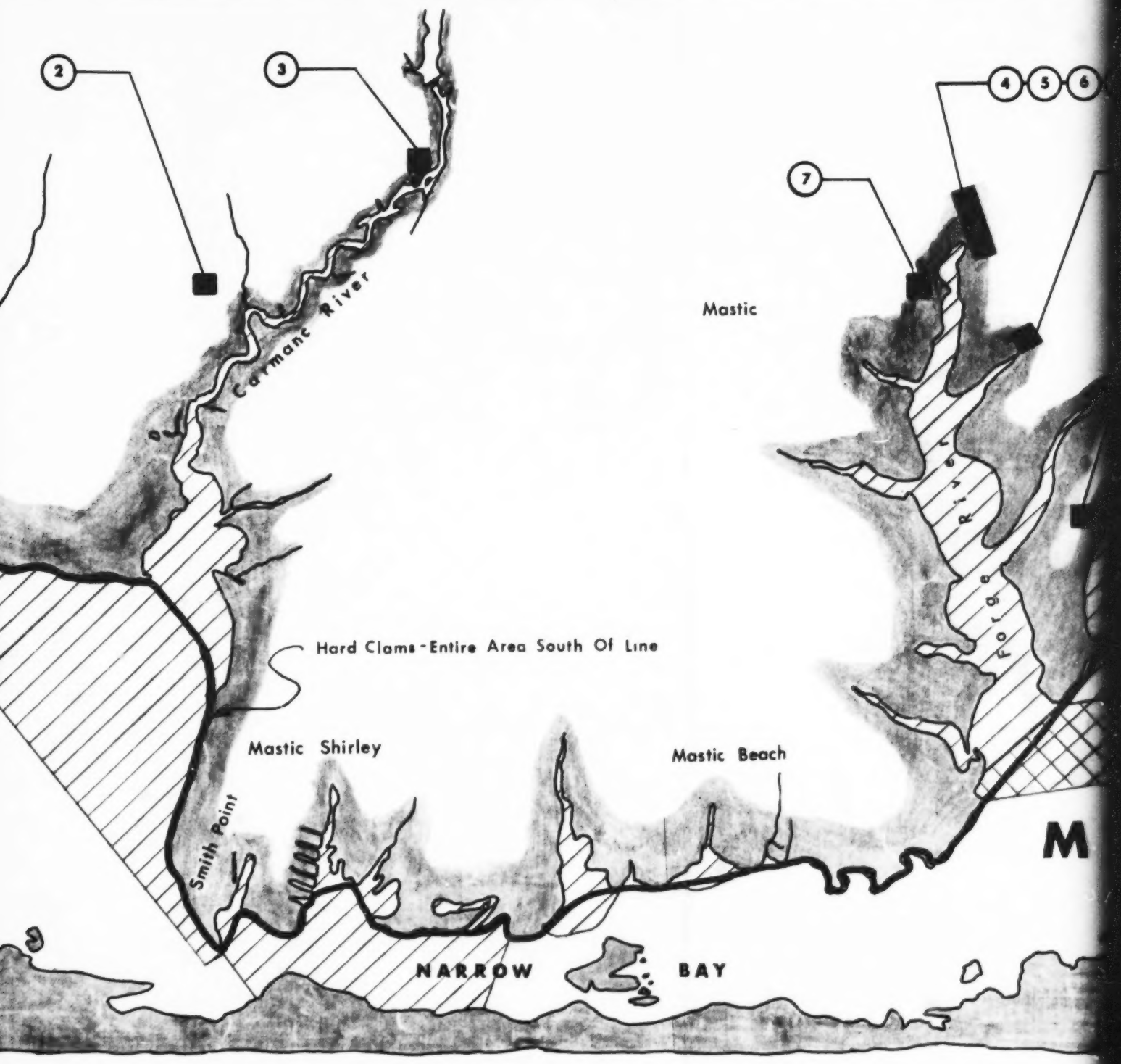
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Carmans River
Mastic
Hard Clams - Entire Area South Of Line
Mastic Shirley
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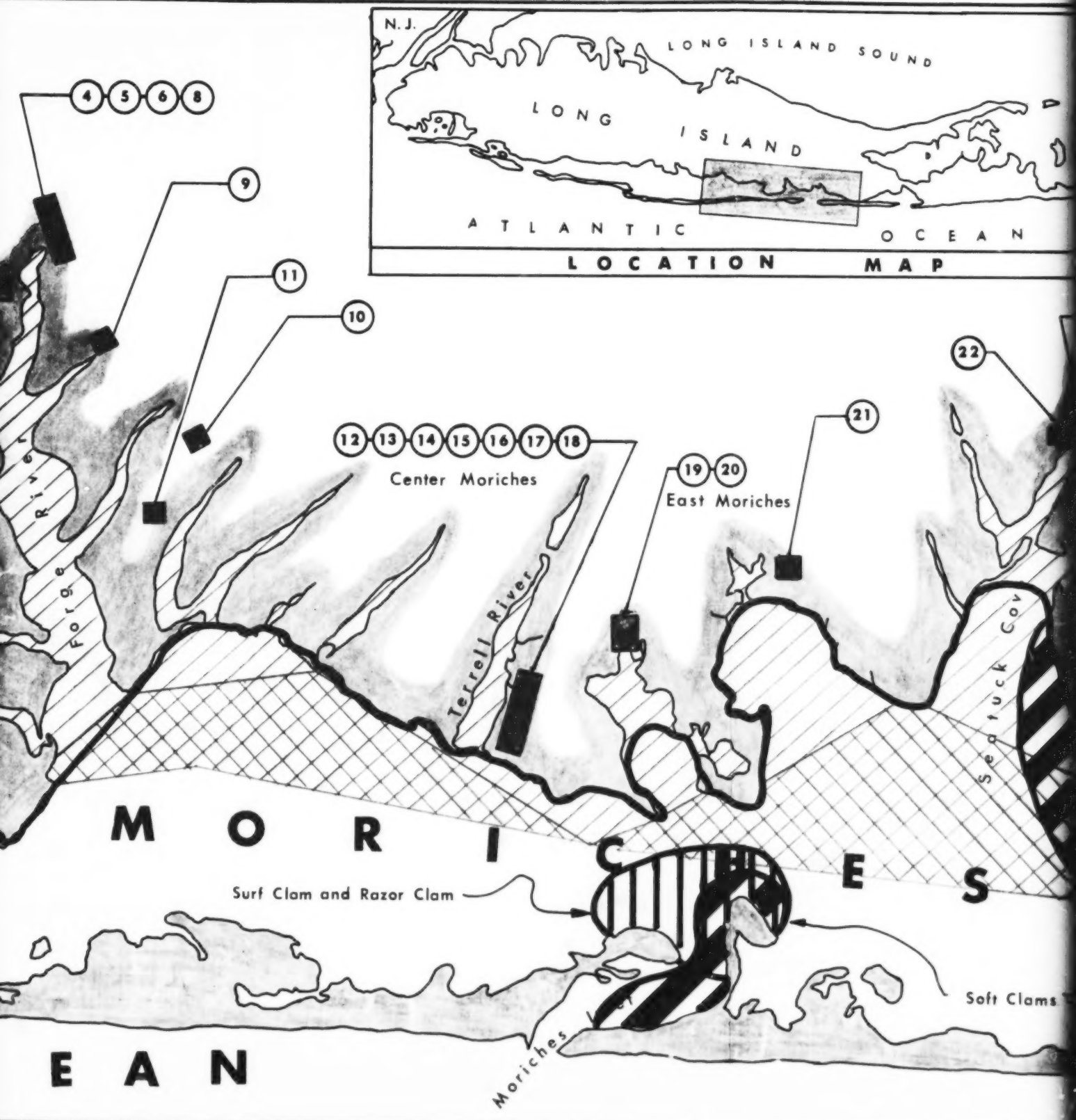
N.J.
LONG ISLAND SOUND
LONG ISLAND
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LOCATION MAP
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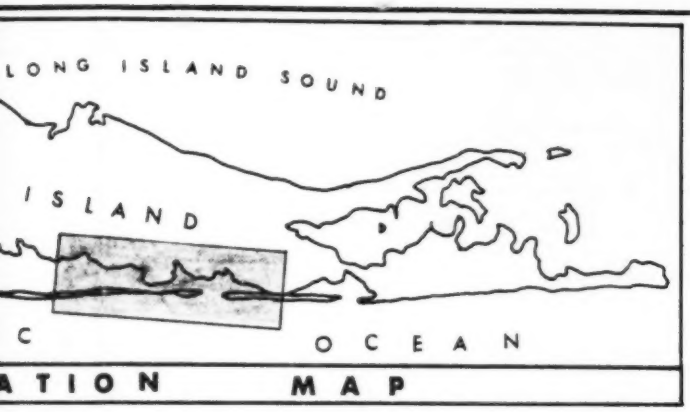

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HUDSON-C
COMPREHENS
September 1966

F

POLLUTION OF NAVIGABLE WATERS OF MORICHES BAY AND EASTERN SECTION OF GREAT SOUTH BAY

STUDY AREA MAP

U. S. DEPARTMENT OF THE INTERIOR

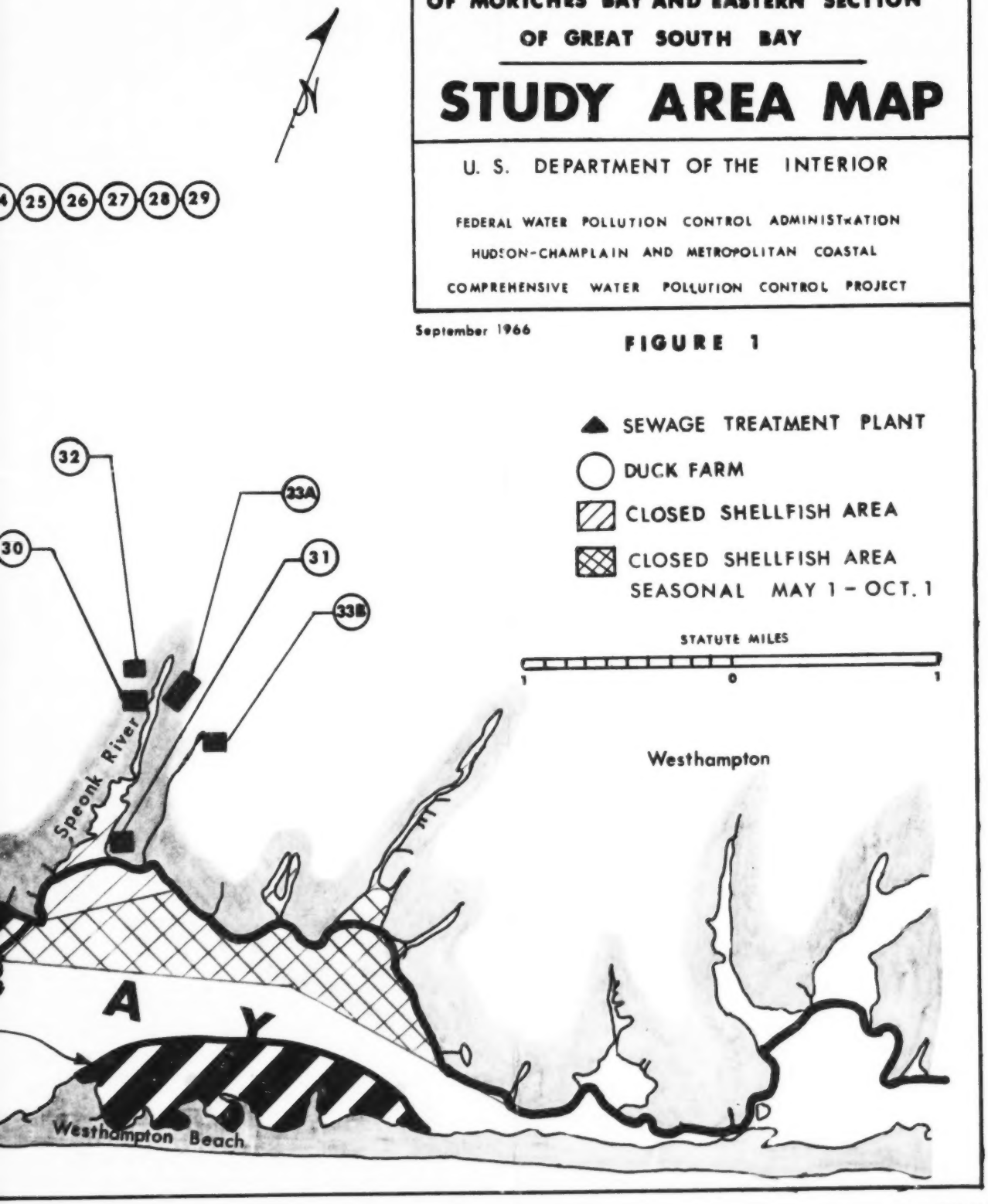
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

HUDSON-CHAMPLAIN AND METROPOLITAN COASTAL

COMPREHENSIVE WATER POLLUTION CONTROL PROJECT

September 1966

FIGURE 1



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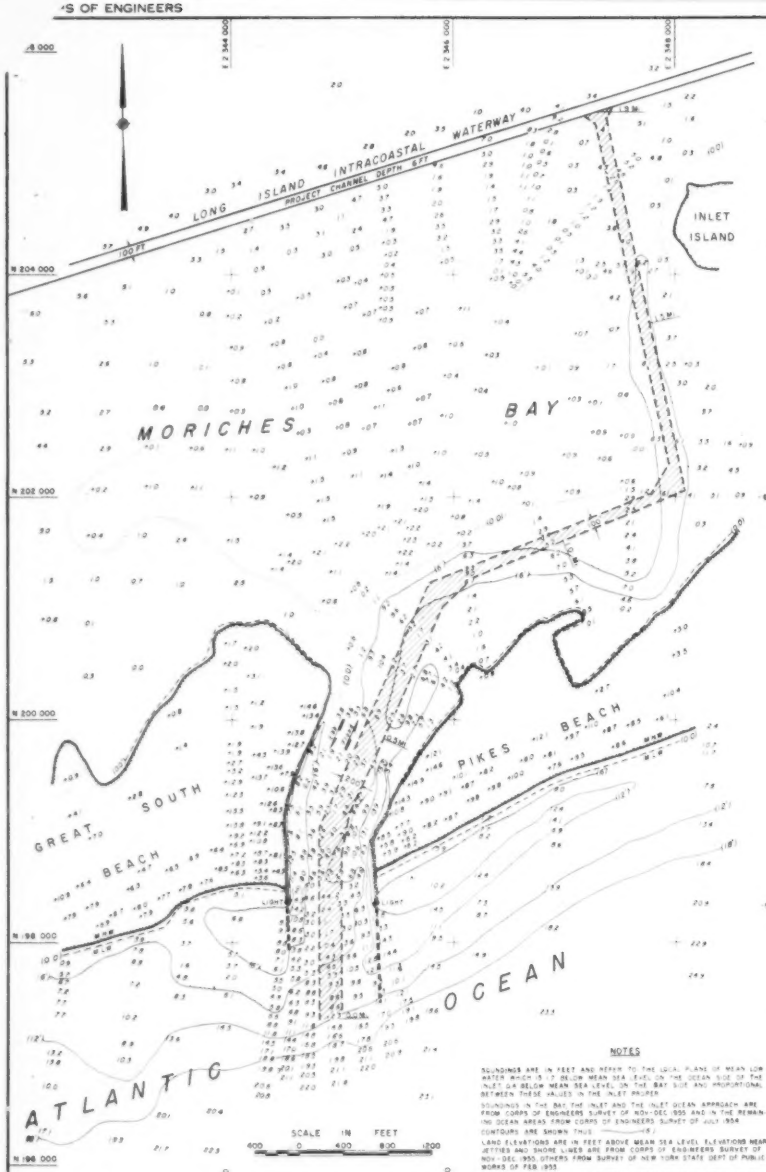


NOTES

SOUNDINGS ARE IN FEET AND REFER TO THE LOCAL PLANE OF MEAN LOW WATER WHICH IS 1.7 BELOW MEAN SEA LEVEL ON THE OCEAN SIDE OF THE INLET OR BELOW MEAN SEA LEVEL ON THE BAY SIDE AND PROPORTIONAL BETWEEN THESE VALUES IN THE INLET PROPER.

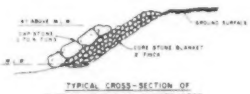
SOUNDINGS IN THE BAY, THE INLET AND THE INLET OCEAN APPROACH ARE FROM CORPS OF ENGINEERS SURVEY OF NOV-DEC 1955 AND IN THE REMAINING OCEAN AREAS FROM CORPS OF ENGINEERS SURVEY OF JULY 1954.

CONTOURS ARE SHOWN THUS ——— (6)

LAND ELEVATIONS ARE IN FEET ABOVE MEAN SEA LEVEL. ELEVATIONS NEAR JETTIES AND SHORE LINES ARE FROM CORPS OF ENGINEERS SURVEY OF NOV-DEC 1955, OTHERS FROM SURVEY OF NEW YORK STATE DEPT OF PUBLIC WORKS OF FEB 1955.

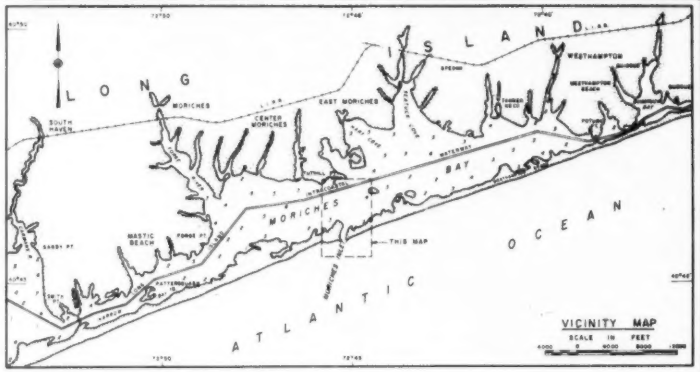
COORDINATES REFER TO LONG ISLAND LAMBERT CONFORMAL CONIC PROJECTION.

JETTY AND REVETMENT ELEVATIONS REFER TO MEAN LOW WATER ON OCEAN SIDE OF INLET.

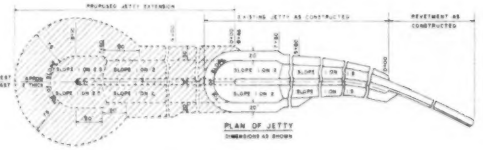


TYPICAL CROSS-SECTION OF EAST REVETMENT AS CONSTRUCTED
NOT TO SCALE

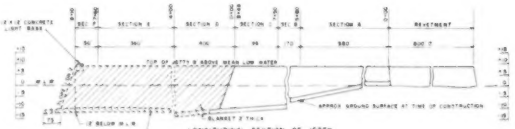
TYPICAL CROSS-SECTION OF WEST REVETMENT AS CONSTRUCTED
NOT TO SCALE



VICINITY MAP
SCALE IN FEET
4000 0 4000 8000 12000

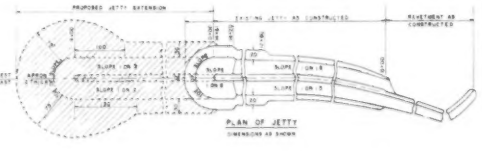


PLAN OF JETTY
DIMENSIONS AS SHOWN

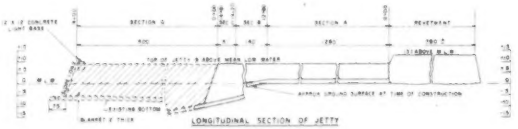


LONGITUDINAL SECTION OF JETTY

EAST JETTY

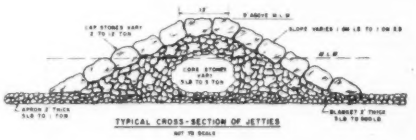


PLAN OF JETTY
DIMENSIONS AS SHOWN



LONGITUDINAL SECTION OF JETTY

WEST JETTY


CAP STONES VARY 2 TO 12 TON
SLOPE VARIES 1 ON 1.5 TO 1 ON 2.5
M.L.W.
CORE STONES VARY 5 LB TO 5 TON
APRON 2' THICK 5 LB TO 1 TON
BLANKET 3' THICK 5 LB TO 200 LB

TYPICAL CROSS-SECTION OF JETTIES
NOT TO SCALE

DETAILS OF JETTY SECTIONS

SECTION	TOP WIDTH (FT)	SIDE SLOPE	APRON WIDTH (FT) EAST	APRON WIDTH (FT) WEST	SIZE OF STONE CAP STONE	SIZE OF STONE CORE STONE	SIZE OF STONE BLANKET	SIZE OF STONE APRON
EAST JETTY								
EXISTING JETTY SECTION C	10	1ON 0.5	—	40 TO 80	8 TO 15 TON	5 LB TO 1 TON	5 TO 200 LB	5 TO 200 LB
D	10	1ON 1.0	20	80	8 TO 15 TON	5 LB TO 2 TON	5 TO 200 LB	5 TO 200 LB
E	10	1ON 2.0	20	20	8 TO 15 TON	5 LB TO 2 TON	5 TO 200 LB	5 TO 200 LB
PROPOSED EXTENSION SECTION D	10	1ON 2	20	80	7 TON MIN	5 LB TO 5 TON	50 TO 200 LB	200 LB TO 1 TON
E	10	1ON 2	20 TO 40	120 TO 160	7 TON MIN	5 LB TO 5 TON	50 TO 200 LB	200 LB TO 1 TON
F	10	1 ON 2.5	20 TO 70	160 TO 210	7 TON MIN	5 LB TO 5 TON	50 TO 200 LB	200 LB TO 1 TON
WEST JETTY								
EXISTING JETTY SECTION A	10	1 ON 1.0	10	10	8 TO 8 TON	10 LB TO 2000 LB	10 TO 200 LB	10 TO 200 LB
C	10	1 ON 2.0	20	60	8 TO 15 TON	10 LB TO 2 TON	10 TO 200 LB	10 TO 200 LB
D	10	1 ON 2	20	80	8 TO 10 TON	10 LB TO 2 TON	10 TO 200 LB	10 TO 200 LB
PROPOSED EXTENSION SECTION D	10	1 ON 2	20 TO 70	80 TO 130	7 TON MIN	10 LB TO 5 TON	50 TO 200 LB	200 LB TO 1 TON

RECOMMENDED IMPROVEMENT

CHANNEL 10 FEET DEEP AT MEAN LOW WATER AND 200 FEET WIDE FROM THAT DEPTH IN THE ATLANTIC OCEAN TO MORICHES BAY, THENCE A CHANNEL 6 FEET DEEP AND 100 FEET WIDE TO THE LONG ISLAND INTRACOASTAL WATERWAY; REHABILITATION OF THE EXISTING JETTIES AND REVETMENTS; SEAWARD EXTENSION OF THE EAST JETTY TO THE 12-FOOT CONTOUR, AND SEAWARD EXTENSION OF THE WEST JETTY A DISTANCE OF 400 FEET; AND SAND BY-PASSING FACILITIES.

RECOMMENDED CHANNEL SHOWN THUS ////

RECOMMENDED JETTY EXTENSIONS SHOWN THUS

EXISTING JETTIES SHOWN THUS

EXISTING REVETMENTS SHOWN THUS

Submitted with Survey Report in compliance with Section 6 of the River and Harbor Act approved 2 March 1945 (Public Law No. 14, 79th Congress)

MORICHES & SHINNECOCK INLETS
LONG ISLAND NEW YORK
MORICHES INLET
DETAIL PLAN

SCALES AS SHOWN

CORPS OF ENGINEERS, U.S. ARMY, OFFICE OF THE DISTRICT ENGINEER
NEW YORK DISTRICT, NEW YORK, N.Y. SEPTEMBER 1956

SUBMITTED	REVIEWED	RECOMMENDED
Chief, Engineering & Construction Division	Chief, Local Authorities Division	Chief, Engineering Division

APPROVED
Colonel, U.S. Army, District Engineer

Drawn by A.T.
Checked by A.P.

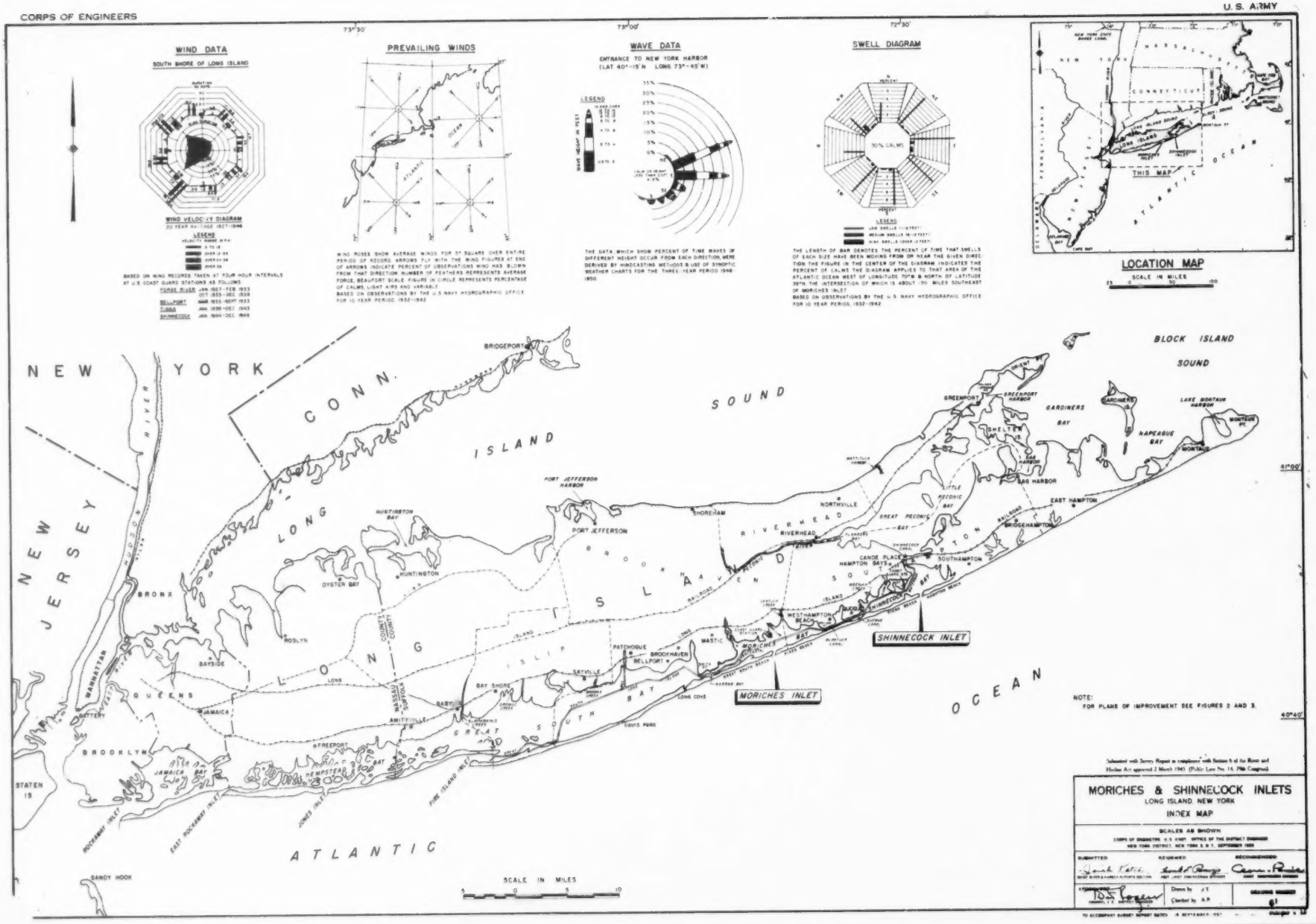
DRAWING NUMBER 6

TO ACCOMPANY SURVEY REPORT DATED 18 SEPTEMBER 1956

FIGURE 2

CORPS OF ENGINEERS

U.S. ARMY


WIND DATA
SOUTH SHORE OF LONG ISLAND
WIND VELOCITY DIAGRAM
20 YEAR AVERAGE 1927-1946
LEGEND
BASED ON WIND RECORDS TAKEN AT FOUR HOUR INTERVALS AT U.S COAST GUARD STATIONS AS FOLLOWS
FORGE RIVER JAN 1927 - FEB 1933
OCT 1933 - DEC 1938
BELLPORT MAR 1933 - SEPT 1933
TIANA JAN 1939 - DEC 1943
SHINNECOCK JAN 1944 - DEC 1946
PREVAILING WINDS
WIND ROSES SHOW AVERAGE WINDS FOR 5° SQUARE OVER ENTIRE PERIOD OF RECORD. ARROWS FLY WITH THE WIND. FIGURES AT END OF ARROWS INDICATE PERCENT OF OBSERVATIONS WIND HAS BLOWN FROM THAT DIRECTION. NUMBER OF FEATHERS REPRESENTS AVERAGE FORCE, BEAUFORT SCALE. FIGURE IN CIRCLE REPRESENTS PERCENTAGE OF CALMS, LIGHT AIRS AND VARIABLE.
BASED ON OBSERVATIONS BY THE U.S NAVY HYDROGRAPHIC OFFICE FOR 10 YEAR PERIOD, 1932-1942
WAVE DATA
ENTRANCE TO NEW YORK HARBOR
(LAT 40°-15' N LONG 73°-45' W)
LEGEND
THE DATA WHICH SHOW PERCENT OF TIME WAVES OF DIFFERENT HEIGHT OCCUR FROM EACH DIRECTION, WERE DERIVED BY HINDCASTING METHODS & USE OF SYNOPTIC WEATHER CHARTS FOR THE THREE YEAR PERIOD 1948-1950.
SWELL DIAGRAM
30% CALMS
LEGEND
THE LENGTH OF BAR DENOTES THE PERCENT OF TIME THAT SWELLS OF EACH SIZE HAVE BEEN MOVING FROM OR NEAR THE GIVEN DIRECTION. THE FIGURE IN THE CENTER OF THE DIAGRAM INDICATES THE PERCENT OF CALMS. THE DIAGRAM APPLIES TO THAT AREA OF THE ATLANTIC OCEAN WEST OF LONGITUDE 70°W & NORTH OF LATITUDE 39°N. THE INTERSECTION OF WHICH IS ABOUT 190 MILES SOUTHEAST OF MORICHES INLET.
BASED ON OBSERVATIONS BY THE U.S. NAVY HYDROGRAPHIC OFFICE FOR 10 YEAR PERIOD, 1932-1942
THIS MAP
LOCATION MAP
SCALE IN MILES
NEW YORK
CONN.
SOUND
ISLAND
LONG
NEW JERSEY
BRIDGEPORT
PORT JEFFERSON
HUNTINGTON
OYSTER BAY
BRONX
ROSLYN
BAYSIDE
QUEENS
JAMAICA
BROOKLYN
STATEN IS.
SANDY HOOK
NORTHVILLE
RIVERHEAD
SHOREHAM
GREENPORT
GARDINERS BAY
SHELTER IS.
SAG HARBOR
EAST HAMPTON
SOUTHAMPTON
BRIDGEHAMPTON
BLOCK ISLAND SOUND
LAKE MONTAUK HARBOR
MONTAUK PT.
NAPEAGUE BAY
PATCHOGUE
BROOKHAVEN
BELLPORT
MASTIC
WESTHAMPTON BEACH
SHINNECOCK
MORICHES
BAY SHORE
AMITYVILLE
FREEPORT
BABYLON
SAYVILLE
OCEAN
ATLANTIC
SHINNECOCK INLET
MORICHES INLET
ROCKAWAY INLET
EAST ROCKAWAY INLET
JONES INLET
FIRE ISLAND INLET
SCALE IN MILES
NOTE:
FOR PLANS OF IMPROVEMENT SEE FIGURES 2 AND 3.

Submitted with Survey Report in compliance with Section 6 of the River and Harbor Act approved 2 March 1945 (Public Law No. 14, 79th Congress)

MORICHES & SHINNECOCK INLETS
LONG ISLAND, NEW YORK
INDEX MAP

SCALES AS SHOWN

CORPS OF ENGINEERS, U.S. ARMY, OFFICE OF THE DISTRICT ENGINEER
NEW YORK DISTRICT, NEW YORK, N.Y., SEPTEMBER 1950

SUBMITTED | REVIEWED | RECOMMENDED

Drawn by J.T.
Checked by A.P.

TO ACCOMPANY SURVEY REPORT DATED 6 SEPTEMBER 1950

MR. HENNIGAN: That concludes the report of the Coordinating Committee.

MR. STEIN: Thank you, Mr. Hennigan, for an excellent report. This is as good a report as I have seen in the field. The remarkable thing about it is that we have such a broad representative group working on it. Sometimes you get a crackerjack report when you have one agency or just a few people working on it, but it is amazing, with the wide divergent interests working on this report, that we were able to get such an excellent report.

We have to commend the chairman, Mr. Hennigan, and his committee very highly. The report is clear and, for the subject matter, concise and precise.

Are there any other comments or questions at this time on the report?

(There was no response.)

MR. STEIN: If not, we will recess for ten minutes.

Those speakers wishing to appear should make their arrangements to do so during the recess.

(After a short recess.)

MR. STEIN: May we reconvene?

As always in these conferences, the situation begins to clarify itself, at least as to the length of the

proceedings.

It seems apparent, from the complexity and thoroughness of the committee's report and recommendations and the reaction to them, that the conferees probably will need an executive session.

What we intend to do now is call on New York State to call their participants and invitees. We will proceed until about 12:30, and then we will see where we stand. At the present time, it is contemplated that we probably will recess at that time for lunch. After lunch, if there are any more statements, these will then be presented. Then the conferees will have an executive session, following which we will make an announcement.

I am confident that with the cooperation of the participants, if you can gauge your time, we can be concluded by this afternoon and get you out at a reasonable hour in order to beat the rush hour.

With that, Mr. Metzler, may I call on you again?

MR. METZLER: We do have several who have asked for the privilege of making statements. We have five, Mr. Chairman, at the moment who would like to testify.

So, if Mr. Dennison is prepared, let's start with him, and he will be followed by Mr. Waldbauer, the Mayor of Patchogue.

STATEMENT OF MR. H. LEE DENNISON,
COUNTY EXECUTIVE, SUFFOLK COUNTY,
RIVERHEAD, NEW YORK

MR. DENNISON: Mr. Chairman, I must take slight issue with your somewhat glowing remarks about the report, in that after nine months I had hoped for a little bigger and better baby, at least a greater scope, and certainly more firm recommendations about our problems of pollution.

I noted in the report itself some sixty odd studies, and we in our Department of Public Works have another twenty or twenty-four, something like that. Continuing studies have been going on since about 1931.

I am trying to relate another report to your statement, which I appreciate and like very much, that abatement has not been adequate and that the Federal Government can enforce action. This is what I am interested in, much more than reports and more reports.

The report is not or could not possibly be as complete as I had hoped, when you are studying a part of what is an overall pattern, every bit of which relates to each other bit in the overall pattern.

I will be very brief here and try to mention two or three things that are in my mind about this report and

about the problem.

You are aware of our situation concerning the present status of our sewage disposal program. You remember that it was rejected by a six to one vote. They are presently in the process of trying to regain public confidence and get this off the ground and in the works, as part of the abatement of pollution in Great South Bay, and certainly the protection of our fresh water supply.

I must take some issue with other things also in the report. For example, some of the recommendations have to do with the dredging of duck sludge. I said nine months ago, or whenever the initial meeting was here, and I say again today that there is only one simple answer to me of pollution from the duck farms, and when you are talking of dredging the sludge from the duck farms as a measure of abatement of pollution, I try to get across that this is somewhat useless. We have been trying to do this for years.

I will make a statement that is off the top of my head here. I would ask possibly, if necessary, for some support from Commissioner Kammerer of our Public Works who is here, but I would firmly believe, without actual data, that it would take our county dredge working day and night, every day of the year, not less than five full years to even begin to clean up the duck sludge that is polluting Great

South Bay, even if there were no more ducks.

So, when you are talking of dredging, small dredging projects to get at the abatement of pollution by this means, as far as I am concerned it is like a penny on a meat block toward meeting the problem.

As far as the inlet itself is concerned, which was taken up considerably in this study, we have been moving on the inlet project, obviously more than this report is aware.

The County did this last year complete a new northwest channel of dredging in the Moriches Inlet area 200 feet wide and 12 feet deep. This was done not only for navigation, but again to help alleviate the pollution problem by a better flushing action.

So far it has been very successful, this new channel that we have undertaken at great expense, and this is only a part of the County expense of trying to do something more about Moriches Inlet all these past thirty years. We have a list of our expenditures.

But, along the same lines, we had hoped again for more action and less studies concerning the inlets. I must say here that we have to consider talking now from an engineering standpoint. We cannot consider these inlets each by themselves. We have to consider Moriches Inlet in

company with Fire Island Inlet and with Shinnecock Inlet so as to get the overall pattern to meet the pollution, the navigation, and the flushing problems.

We have tried for the last going on eight years to get both Shinnecock and Moriches Inlet rebuilt. This is the way the Corps of Engineers set it up. The Board of Supervisors is on record, I think not less than three times, committing itself to its proper share of the cost of the rebuilding and improving of both Moriches and Shinnecock Inlets together as a single project.

As a matter of fact, only last week for a couple of days here in Suffolk County, the Chief of the Corps of Engineers was with us here, and we expended our efforts towards action rather than more studies for both of these inlets, again as a single project.

We would accept a project for just Moriches Inlet alone, but to me it is not meeting the problem again in the overall pattern, and as a result of our conversations with the General last week, we are hopeful of construction action without any more studies coming out of our ears relative thereto.

We have had complete plans ready to go in the last seven or eight years for the rebuilding of these inlets. We are ready to build, and this to me is an important thing,

in our pollution problem in the bay -- important for one simple reason, one reason contributory to why we did the dredging this last year at Moriches Inlet.

There are not less than 50 million tons of sand that have come in these two inlets and shoaled in the inner bay. This to me is the one major key to our pollution problem, that both inlets -- and again both inlets -- must be considered as a pair as far as the by-passing proposal is concerned. In other words, if you do the westerly one first and start talking of by-passing sand there, you are in an immediate problem with not having by-passed the sand at Shinnecock Inlet, which is to the east.

They have to be worked together, and this sort of thing is what I hoped this report would have emphasized a little more clearly.

I will not spell out the amount of money that the County has spent along these lines. I won't spend any more time on our own sewage disposal program, which I am quite confident we will get off the ground within the coming months, if not sooner.

I would support the proposed model of Great South Bay, not for Fire Island or Moriches or Shinnecock Inlets, but for trying to determine whether or not a new inlet would be helpful. This to me would be the major

objective of such a model study, and I expect probably, talking again off the top of my hat, that a new inlet would be very helpful between Moriches and Fire Island Inlets.

I had hoped also that this report would have something to do with whether or not it was within the jurisdiction, concerning the legality relating to the lands under the waters of all of Great South Bay. As you know, we have a thing going here in Suffolk County called "Home Rule," and jurisdictions of lands under waters from the Kings Grant and that sort of thing.

Regardless of all the studies you make, these legalities also have to be straightened out now before we get too far with studies or anything else, so that we can overcome what needs to be overcome in order to produce real effective action.

Thank you for permitting me to be heard.

MR. STEIN: Thank you, Mr. Dennison.

Are there any comments or questions?

Mr. Metzler.

MR. METZLER: Well, I think the criticism of the report is very constructive.

MR. DENNISON: Thank you.

MR. METZLER: We too are interested in much more action than in writing reports. I am grateful to you for

pointing out the areas in which you think we have erred most. I am particularly interested in the matter of dealing with the problem of sewering the built up areas here, which you referred to as having a referendum on.

Is there any action which the conferees can take from this chair which would lend support to your efforts on the sewering?

MR. DENNISON: I would strongly recommend that your group, from your position of strength and authority in having the power of enforcement for the abatement of pollution, and I would ask that you use this just as loudly and clearly as you can to help us at the county level in our efforts, and the State level in our efforts to get the sewage disposal program underway.

If you want to call it a threat or club or whatever, we need it. We need your help.

MR. METZLER: Another question along that line. How important is the Federal guaranteeing of mortgage money to new development down here? What would happen if that were made available only for homes that were on public sewer systems?

MR. DENNISON: That is a new thought, and I like it. I like it very much.

MR. METZLER: I will tell you it won't be the

first time it is being used.

MR. DENNISON: So long as there is enough of a spread here to not ruin the industry as such, the idea is wonderful, excellent. I like it. This again would be very helpful in helping us to get this program on the road.

If there is any question, I think out of our fiasco, as I call it, of the public referendum on sewers did come one thing: A general acceptance by the public of the need for sewers. There is no question of this in my mind.

Now we have to get at the ways and means of administration and financing particularly, and just a little touch of a threat of enforcement here and there would be very helpful.

MR. METZLER: Thank you.

MR. STEIN: Mr. Dennison, I think your comments have been very helpful. However, when you talk about a threat or a club, I don't know that we have a threat or a club.

You are in an enforcement action now. This is why the State people are here and this is why we are here. We just carry out the law. What we do is we move inexorably, and the law prescribes the way we move.

The first session of the conference found, and this was agreed to by the Secretary of the Interior, that the waters of Moriches Bay and Great South Bay, which we are

considering here, are polluted. We intend to clean those waters up, and we are right in the midst of an action here.

Now, I think, the studies are over. This was not in the nature, as I saw the sixty references here, of a new study.

When you have a lot of studies, you have adherence to these various studies going around them. We got the State people, the Federal people and the shellfish people together, and I think the remarkable thing is that they got a consensus, as much as we did here.

As far as I can see, and I am just speaking for myself, the days of studies are over. We know where to go, and we are looking for action.

On your specifics in dealing with the duck sludge, I think we mean the same thing. As I look at the duck sludge, whether you don't have ducks tomorrow or whether you do have ducks tomorrow, we have a legacy from past historical experience here of residues of duck sludge. Unless that is cleaned up, you are going to have a continuing source of pollution as the action comes in and takes it away.

In other words, no matter what we do, it seems to me that if we are going to have clean waters in this area, we have to get rid of the duck sludge as one of our problems. You cannot have clean water and leave the duck sludge there.

Let us assume that we could wave a magic wand and, just for the assumption, abolish all ducks from the face of the earth, Heaven forbid. I love them. But let's suppose we could do it. You would still have to clean up the duck sludge in this area to get clean water.

In other words, I think we can all agree on the issue that we have a legacy of duck sludge that must be removed if we are going to have clean water. The only way, as the committee points out, is to get a realistic dredging program and get rid of it. Otherwise you are never going to have clean water.

MR. DENNISON: No question about this. All I was trying to get across is that you start cleaning the sludge, which is inevitable and must be done, and it is not necessarily successful where more sludge is coming.

MR. STEIN: That's right. There were two recommendations of Mr. Hennigan's group: The stopping of more sludge, but the getting rid of the existing sludge. This has to be done.

MR. DENNISON: Right.

MR. STEIN: We just have to face that fact.

Just one more point, and that is on your inlet problem. In the Congress, we go before the Public Works Committee, the same as the Corps of Engineers.

Mr. Metzler, both in Kansas City and here, has long been familiar with engineering projects, and I know that from your meetings with the General you are no doubt familiar with them too.

The way we approve these projects is a prescribed one that has grown up historically in our country.

MR. DENNISON: Right.

MR. STEIN: We go through certain moves. If you were a foreigner and looked at the system, you would figure it could not possibly work, but it does.

In a democracy, we all get a little frustrated with that system at times. I do think the way to get these desirable projects, if we are all agreed on them, is to get the State group interested in your problem, the Federal group interested in your problem, and your local group and all the industries here setting up a solid and completely united front. In my experience, the one thing that has delayed these projects more than anything else is if there is a notion that there is division.

There is nothing that will move a project like your inlet project and your public works projects through faster than if we can all stay on the same sled and not get shaken loose, because that is what moves the projects ahead.

MR. DENNISON: Let me say, Mr. Stein, on behalf

of the County, that the splendid work of your group and the splendid studies that are coming out from the committee is the farthest along we have ever been in this County, and this is very wonderful.

There is only one little catch as far as some of us in Suffolk County are concerned. That word "inexorable" that you mentioned is sometimes awfully slow.

MR. STEIN: It may be awfully slow, but it is as fast as we can push it.

MR. DENNISON: We realize that.

MR. STEIN: Very well. Thank you.

Mr. Metzler?

MR. METZLER: Next is the Mayor of Patchogue, Mr. Robert Waldbauer.

STATEMENT OF HONORABLE ROBERT T. WALDBAUER, MAYOR, VILLAGE OF PATCHOGUE, LONG ISLAND, NEW YORK

MAYOR WALDBAUER: Thank you, Mr. Metzler.

Gentlemen, this morning it is only my object to try to be a bit informative as to the position of the Village of Patchogue and the Patchogue Sewage Treatment Plant, as far as information to the committee is concerned, and if I may make one or two small suggestions.

First of all, I have a release in front of me dated August 21, 1966. The Water Pollution Control Administration puts this release out, I would assume. I am sure they have no idea of the headaches which they created, but they did.

The reason for it was the paragraph where they said:

> "A spokesman for the Interior Federal Water Pollution Control Administration said that their study indicates widespread pollution of the bays which comes from numerous adjoining duck farms. In addition, the bacterial pollution gets through the sewage treatment plant in the Village of Patchogue."

Gentlemen, that was interpreted to mean in this area that the Village of Patchogue was solely responsible for polluting the entire Great South Bay, and where I spent months in trying to answer that small little paragraph, I could have spent them, I think, more constructively.

I also received another release dated June 9th, which arrived at my office June 19th, just the day before yesterday, telling us about the meeting today. It took some doing, because we are interested. We have proof of our interest, but may I suggest that we would like to get a little

advance notice on when these things are going to be held, and we might prepare ourselves a little better.

For the information of the committee, the Village of Patchogue as far back as 1958 had a program for expanding our sewage district.

In 1950 or thereabouts, a brand new plant was built in the Village of Patchogue. We are rather proud of the plant, and it does an excellent job. We have daily reports, weekly reports and monthly reports, all being approved by the County Health Department, and I am sure that the plant is in good operation and is doing the job it was meant to do, and serves the purpose it was meant to serve on its construction in 1950.

However, on May 2, 1966, I received a letter from Mr. Hennigan, and although two years ago we felt there would be need for the expansion of our sewage plant and started negotiations at that time for a parcel of property directly adjacent to our plant in order that we might be able to have the room to expand it, and now are under contract and we are trying to get the title cleared and we will have title on the property, I am sure, very shortly -- two years ago we started, so we were even a little bit ahead of Mr. Hennigan's letter of May 2nd, not knowing, however, that this was coming.

But on May 2nd, Mr. Hennigan wrote and said that we would be required to put in secondary treatment, and we were led to believe from the remarks in the letter that we had until approximately March of 1972, because this is when he said that financial assistance to meet this obligation is available under the Construction Grant Program in the amount of 60 percent of the eligible cost, and the grant program expires in March of 1972, so we took from that that we had until March of 1972.

We answered his letter on the 23rd of May. We got in touch with the engineering firm that does all of the Village's work and has done for the last ten or fifteen years, and we were informed by the engineer that there were comprehensive study moneys available, and he suggested that we make a comprehensive study possibly of the entire Village, so that by late spring of last year we had started to work.

We have submitted two applications through the County Health Department, and I might add that the real assistance that we have had so far has been from the County Health Department, both applications being rejected. The second application was rejected on April 20, 1967, and we have a letter from the State of New York Department of Health explaining why.

Gentlemen, I can understand that there are

problems on your level as well as on our level, but I think two things are important for me this morning.

1. I would respectfully request that the Water Pollution Control Administration eliminate remarks regarding the Village of Patchogue and its sewage treatment plant in their news releases until such time as they are completely familiar with the efforts that we are making. It will make it easier for us.

2. I would ask that much better and much closer communication be established between the agencies involved.

Gentlemen, I am not familiar with nor am I really particularly interested in your complete report. I am responsible for and wish to do the best I can for the Village of Patchogue.

We have a sewage treatment plant. We want to put in secondary treatment. We are making arrangements to put in secondary treatment. We will do anything necessary to improve the status of our residents in the entire Village, not just the business district.

I would ask that we discontinue putting the stumbling blocks in our way. I understand that somewhere in this wide, wide world there are Federal and State moneys available, and if you will just give me a hint as to where they might be, I will dig them out and we will build the

plant, but let's get together.

We are talking about action. The Village of Patchogue, and I wish to go on record as showing and proving that the Village of Patchogue started its action before this committee was originated. We are continuing to work, and work hard at it, but we are going to get nowhere unless we get better communications.

We started a year ago this month. We have wasted a year. I understand from the report -- and it is not in the written report that I have a copy of this morning, but Mr. Hennigan mentioned somewheres that there was a date of November 1969 for finalizing our secondary treatment plant.

You have taken two years off one end and we have wasted one year already. Now it's getting short. We need your assistance. We need the proper information, and we need much better communications.

We will build it. Just give us the money.

MR. STEIN: Are there any questions or comments? This has been very helpful.

MAYOR WALDBAUER: That is my purpose, Mr. Stein. Quite frankly, I am not trying to be facetious with this at all, but we have some facts that just do not coordinate themselves.

On several occasions, in a number of releases, the Village has been put in a very poor picture with regard to our plant, and, quite frankly, we object to it, because this is not a true evaluation for the public.

MR. STEIN: I will get to that in a minute.

The essential point is that we are together on providing adequate treatment and we are all working for that. You, speaking for the Village of Patchogue, know that is required.

I don't have any of our information or public relations people here now. I always hesitate to speak when we don't have the people who put these things out, but, you know, you have given me a double-edged sword.

I get these releases. I have no recollection of seeing this one before it went out. This may be because I travel around the country, and obviously they don't show you these things when you are not there. However, I get packs of these on my desk each day, maybe twenty or thirty of them stapled together, which are all put out.

Going back to what you said, my contention is why are we putting out all these reams of paper? Who reads them? I'm afraid that if I come back with your complaints, they will be confirmed in the fact that, lo and behold, someone out there reads these, so I don't know which is going

to be worse.

MAYOR WALDBAUER: You see, we have it easier on our level of government, because we are at such a low level that we handle our own public relations work, so we can more determine what goes out.

MR. STEIN: I think, though, you do have a legitimate and a serious complaint. It certainly was not intended that Patchogue was to be singled out as a polluter here.

MAYOR WALDBAUER: I'm sure it wasn't, Mr. Stein.

MR. STEIN: In the way it was stated, I don't think, while it could have been interpreted that way, and no doubt locally was --

MAYOR WALDBAUER: It was. It was. We had the job of explaining it.

MR. STEIN: I don't think that the information man had that in mind as he wrote it. He probably was looking for a name and an example. Again, I am surmising here too. Perhaps the reason Patchogue was picked was because that was where we were going to have the conference. That was the location of the conference. Maybe if we had said we were having it in Brookhaven, they would not have picked Patchogue.

I think your statement in the record speaks for

itself. As far as I can see, Patchogue has indicated its willingness to join an integrated system or improve the system on reasonable terms, as deal realistically with the pollution problems.

If we had this attitude from all the industry and all the political subdivisions here, we would be a long way towards cleaning up our pollution problem.

Your record is one that should not be hidden. I think it is just fine, because, generally speaking, in dealing with pollution problems throughout the country, when we run into a mayor who has the view and the attitude that you have, we can always work out an equitable solution satisfactory to all. I want to commend you for this.

I regret that that appeared in the release. Again, let me say that while I regret it, when you ask me what we can do about it, I am not sure. We have a very big Department. It is not as big as the one I used to be in, but it is very big. We have a tremendous staff.

By the way, I checked with Mr. DeFalco and asked him if he had read this before it came out. He did not. There is no reason why we should when we are out working in the field. The point is that I think it is inevitable in big business, wherever it is, that things like this will occur.

I am going to go back and, as zealously as I can, call this to their attention and try to find out why it happened, but to give you an assurance that we have some kind of system to prevent things like this from happening again, I would just be deluding you and myself if I told you I could do it.

MAYOR WALDBAUER: This isn't my point, Mr. Stein, and I don't mean to be belaboring the issue either.

As far as I am concerned, you can go back and just tell them that for public relations purposes Patchogue doesn't exist. Just put a cover on the map to cover us up.

Let's get to the work that is involved. Let's get down to the business that we are trying to accomplish. I am asking for more and much closer and much better communications so that we can get this next application in. Let's get it off tne ground. Let's let the Federal and the State people understand what we are trying to do. Let's get approval for it. Let's get our study and our survey done, and let's get to the construction.

MR. STEIN: May I give you one more point? I am just thinking of the future. Here is the best way you can stop it. If anything like this or a comparable incident happens to any of you, remember that we are just as far away, or the State is, as your telephone. As far as I am concerned,

we accept collect calls. If anything like this should happen to come up and you think it comes out of our office, just call up. If you do, maybe we can straighten it out.

MAYOR WALDBAUER: Thank you.

MR. STEIN: Are there any other questions?

MR. METZLER: I wanted to say merely that you raised three points that were particularly important, I thought. The first was the poor notice, and that is our fault. This conference was called on relatively short notice, and I don't believe we did get it out actually, and I apologize to you for that.

Now, on the point concerning the matter of aid for comprehensive planning, I am not familiar with the details. I would assume that you did not qualify for one reason or another. But we will take a look at this. We certainly should have been working back and forth, so that instead of submitting an application and going through all this business, we ought to have been discussing this so that you knew whether you were eligible or not.

MAYOR WALDBAUER: I think, Mr. Metzler, your department has been working in our interest.

MR. METZLER: Yes.

MAYOR WALDBAUER: But without our knowledge, and this is the problem.

MR. METZLER: If I were you, I would be worried about that too.

MAYOR WALDBAUER: I am worried about it.

MR. METZLER: I'm always worried about people who are working in my interest.

Certainly, on the construction phases of this, the State of New York can guarantee you 60 percent construction assistance, and because of the way the program is set up, we may be able to go as high, cooperatively with the Federal Government, as 85 percent on the pumping stations and so forth.

MAYOR WALDBAUER: We should be submitting our comprehensive study application again possibly before the end of this month, or by certainly next month. If you would alert your people to the fact that the application is coming through, we would appreciate it. We would like some cooperation with it. If there is anything wrong, let's get in touch. Let's not waste the time with correspondence. Let's know what they are doing or what they wish. We will be glad to comply.

But let us get this thing going, so that, quite frankly, I would be very pleased to be one of the first to be able to start to finalize the plans that this committee has set up.

We agree with the committee completely, but it isn't just a matter of the Village of Patchogue going to be required to put this in. We are waiting to start.

Thank you.

MR. STEIN: Thank you, Mayor.

Mr. Metzler?

MR. METZLER: Mrs. Wallace has asked for an opportunity to be heard.

STATEMENT OF MRS. ELIZABETH M. WALLACE, DIRECTOR, OYSTER INSTITUTE OF NORTH AMERICA, SAYVILLE, NEW YORK

MRS. WALLACE: I am Elizabeth Wallace, Director of the Oyster Institute of North America, a trade association representing the clam and oyster producers of our country.

We welcome this opportunity to reinforce the motivation of the Department of Health of New York and of the Department of the Interior in hopes of achieving the maximum beneficial uses of our local waters which are under consideration today.

It would be hard to overemphasize the sense and

interest in the quality of our waters. It was amply reinforced by the Clean Waters Act that New York passed. Subsequently the people of New York gave a mandate to their representatives by voting to spend one billion dollars to clean up the waters of New York. This set a national precedent -- if you will, a star in the sky that lighted the path for other States to emulate.

I would like to share with you some experiences that we had in testifying that resulted in the Water Quality Act by the Federal Government, which instituted this conference today.

As a result of New York's action, testimony after testimony was given by people. Those contrary to the legislation said, "If you will let us alone, we can do as New York is doing." Those in favor said, "Will the Federal Government please move in so that our State can afford to do what New York says they are going to do?"

I think that we should realize here locally how the leadership of Governor Rockefeller and his ability and his vision are recognized throughout our State.

As a result of the Clean Waters Act, Mr. Dwight Metzler was recruited from the State of Kansas. He is nationally known for his expertees in this field, and I would like to share with you that his colleagues consider

him totally incorruptible. He has at his right hand Robert Hennigan, who is both dedicated and able and responsible for the report that you heard today.

Our industry and we as citizens wish to support and encourage our State to achieve these goals to which this conference today is dedicated.

Thank you.

MR. STEIN: Thank you, Mrs. Wallace.

MR. METZLER: Might I make a simple remark? I was worried about the "incorruptible" word. I was sure it would come out the way I heard it more often, "incorrigible."

Thank you.

The next statement is by Nelson Houck of the Long Island Duck Growers Association.

STATEMENT OF MR. NELSON D. HOUCK,
GENERAL MANAGER, LONG ISLAND DUCK
FARMERS CO-OPERATIVE, EASTPORT,
NEW YORK

MR. HOUCK: Conferees, Ladies and Gentlemen:

I am Nelson Houck. I represent all of Long Island's duck farmers. I have just a few quick comments

here as to progress that has been made with the abatement of our problem.

I would first want to turn to Page 22 where you mentioned two different farms. The Paul Chornoma Duck Farm is out of operation, so obviously there is no problem there. The Carman River Duck Farm, which you refer to here, has submitted preliminary plans for treatment. They have now engaged Don Young and Bill Cosulich to finalize plans by August 1st to submit to the Department of Health. We have eighteen other farms that at the present time, at least, have Don Young and Bill Cosulich engaged to draw final plans to submit them by August 1st. Already one farm has completed the plans. Bill Cosulich has submitted that, and he is working on others at the present time.

There are a total of 40 duck farms. Five of the farms either are out of business or will be out of business by the end of this year, so that leaves 35 farms.

We have held several meetings. We have had various correspondence with each one to the point where, referring to Page 45, Conclusions and Recommendations, Number 5, we have had the cooperation and the understanding amongst these growers that they will complete all the plans for a cooperative approach to handling of the various tests, and we have a central location, so that I think that that

Number 5 will be carried out as the committee has recommended.

Now, with reference to tests by the pilot plant by the Department of Health, it has far exceeded the standards and expectations that we had expected, and, therefore, with the primary and secondary treatment that this plant on each farm will handle, I am confident that our problem will be solved and I am confident that we will meet the requirements of the Department of Health in every possible way.

Thank you.

MR. STEIN: Thank you very much, sir.

Are there any comments or questions?

(There was no response.)

MR. STEIN: I would like to commend your industry on their approach and attitude. You know, we have had this problem a long time. I am beginning more and more to see the possibility that some people didn't see years ago, that ducks and oysters are compatible.

Mr. Metzler?

MR. METZLER: I merely want to say that a few years ago, I think it would have been impossible to have made the amount of progress that has been made on the attack of actually treating these wastes and adequate practices. This, of course, was theoretical. They have cooperated very

nicely and deserve a great deal of credit for this.

MR. HOUCK: Thank you.

MR. METZLER: I will next call on Mr. Hugh Mercer of the Bluepoints Company.

STATEMENT OF MR. HUGH MERCER,
PRESIDENT, BLUEPOINTS COMPANY,
INC., WEST SAYVILLE, NEW YORK

MR. MERCER: I'm Hugh Mercer, President of the Bluepoints Company, shell fishermen.

I'm a local pest, and therefore have viewed the whole proceedings with suspicion and cynicism. However, I must admit that we have been favorably impressed, if I may use an outmoded disreputable adjective, with the business-like approach and procedures of the conference and the report of the Coordinating Committee. I think it is excellent and it is to the point, and its recommendations are logical. I would like to speak to those recommendations for one moment.

1. There should be insistence upon and a public airing of the degree of progress in terms of the schedule of abatement. The public should be made aware of how the matter is proceeding. They are very interested, and we could

help perhaps bring a little weight where needed.

2. If subsidies of a definite nature are to be granted, cash, additional grants to each farm for facilities or anything of this nature, we would appreciate the opportunity to have a chance to comment on, or hear of and comment on these subsidies.

3. In connection with the problem of duck sludge and its handling, I do not feel we should be precipitous in dredging. This is a very large area. Not only is it costly, as has been well pointed out by our County Executive, but there is an aspect to this bank of sludge that may be of value in years to come. I won't debate the chemical analysis of it, but there may be some usefulness in this sludge.

If it is not disturbed, if it is not the source of idiotic attempts at land filling, nor at gaining funds for other projects through the handling of it, I feel that it would be best to consider it very carefully before we begin to spend needed taxpayer funds in this area.

Lastly, and this is a general comment. This report is to the point, is businesslike, and has addressed itself to the issue. I hope it will not be used in any other fashion, but on the issue. It should not be the basis for an argument for a county-wide sewer. It should not be the basis for any other point but the point to which it is

addressed. That is its purpose.

Gentlemen, I compliment you.

MR. STEIN: Thank you, Mr. Mercer.

Would you wait a minute, because I think we have one factual point I would like to clear up to help our thinking.

That is, is the assumption correct that if we allow the sludge banks to remain where they are, undisturbed, and with the limitations you put on it, that we will not have any deleterious effects on water quality because of the existence of the beds in their present location?

This I think is a key factor. I don't think anyone is going to fool with those beds if they are not bothering anyone else, but if they are contributing to the deterioration of the water supply, and the oyster growers are most interested in that, then we are going to have to get at that.

Mr. DeFalco, do you have someone here, or can you call on someone?

MR. DeFALCO: Well, we are aware of some effects. There is disturbance of these sludge beds every time you have a storm, and these materials are re-suspended into the overlying waters and cause deleterious effects. There are rather large concentrations of bacteria trapped in these,

which re-suspend and also create problems.

I agree with you that any dredging of the sludge should be very carefully considered so that we don't create additional problems, but I think there is some real need in certain of the areas to remove these materials.

MR. MERCER: Could I pursue that point of yours carefully, dredging? I believe that there is a standing rule that where a permit for dredging has been granted, it is possible, without further discussion, to return for maintenance of a channel resulting from that permit. This is under the Corps of Engineers.

I would appreciate being corrected on that matter, because if this were correct, I would assume that the Army Corps of Engineers should be advised that any re-dredging for maintenance purposes in those areas would have to be submitted for consideration, in view of your recommendations.

Again, new dredging, we know, would fall within the purview of your recommendations, but would maintenance fall within the purview of those recommendations since it is already, in a sense, authorized?

MR. STEIN: We have a representative of the Corps here and we can let him speak for himself. I don't know if he wants to.

However, in recent years we have been working very closely with the Corps on dredging operations. The Corps is very, very mindful of the water quality implications in all their dredging operations. These have been taken into account.

I don't know if the Corps has any further statement they want to make on this. We have become aware of this in many, many areas of the country. Where we dredge or clear out a channel or go to make one, we have to consider water quality as one of the essential factors before we go ahead with it.

As far as I know, and perhaps I am a partisan, there are no better dredgers or more careful dredgers in the world than the Corps of Engineers.

MR. MERCER: They do a thorough job, yes. They do a thorough job.

MR. STEIN: Let me tell you this: I have worked with the Corps for a long time. They work within a budget and they work within specifications. If you give the Corps specifications to do a job, to test water quality and put the material somewhere, the Corps will follow that out.

Obviously, in a job costing $100,000, if these people are given $50,000 and don't have the specifications, you just can't get that done. I think we have to respect

their limitations and also respect their know-how.

The point is that no one is better qualified to do a good careful dredging job than the Corps, in my opinion. If we can get them the authority, the specifications and the money, they will do it.

MR. MERCER: Very good, sir. Thank you.

MR. STEIN: All right.

MR. METZLER: I would like to ask one question, Mr. Mercer. Perhaps I still have a great deal to learn about both the shellfish and the duck industry, but your second point was that if subsidies were to be made to the farms, then you would like an opportunity to comment in advance.

I wonder if you would elaborate on that a little bit and tell me what you had in mind?

MR. MERCER: Well, sir, this is again a personal opinion, because, like yourself, I have a great deal to learn. I mean both of us agree on that.

I am very doubtful -- this is a personal observation -- that there will be practicability in the facilities that will be developed between now and the time limits.

I originally spoke here at the first session indicating that our problem arises quite often in this matter from location. These farms are on the water, and I do not

see any practicable, meaning economical, private cost bearing aspects to removing, which is one of the basic of killers, the phosphates. This is a very costly process. It is an unknown process, really. There are ways to do it of a minimal character.

Now, I also said at that time that I felt that the absolute dissolution of the duck growing industry would be a disservice. I am in a protein growing business. They are in a protein growing business.

I felt, therefore, at sometime before this really became the issue, at sometime before the duck farmers suddenly realized they do mean it -- you know, a terrible awakening here one day, that they really do mean it -- at that time there will be desperate thrashing about to either delay or dilly-dally, which we will not do and not let you do. Burn your house down, or something. There will be no shilly-shallying.

But, on the other hand, there may be some possible moves, as I already said. I know at one meeting that Mr. Dennison was at, and he has left, the suggestion was made that we should pipe this material inland to make our middle island more fertile.

Oh, yes, I know it takes a long while for it, but it has usefulness. The whole industry has usefulness,

and I thought at that particular time when this does become a critical junction, there will be desperate thrashing.

Then I think perhaps subsidies, even subsidies to buy the farms and move them, might be considered.

I am just trying to anticipate that evil day when the moment of truth arrives and someone will say, "Well, what are we going to do with these people? We've got to give them some money of some kind."

MR. METZLER: I understand your point.

MR. STEIN: We hope that the moment of truth will come much earlier, and that will be in 1968 when the duck facilities are scheduled to be in operation.

In other words, you won't have to wait for the millennium, I don't think, to find out about it.

Thank you.

MR. METZLER: I only have one more, Mr. Chairman, who has indicated that he wishes to make a statement.

If there are any others who do want to be heard, they should get a note to me.

Mr. Harrison, do you have any others? I have one more.

MR. HARRISON: Just Mr. McNicol.

MR. METZLER: All right. Mr. Douglas McNicol of the Fire Island Sea Clam Company.

STATEMENT OF MR. DOUGLAS McNICOL,

FIRE ISLAND SEA CLAM COMPANY,

WEST SAYVILLE, NEW YORK

MR. McNICOL: My name is Douglas McNicol. I served as a representative of the shellfish industry on the committee, but it is as a taxpayer that I would like to talk right now. I think I contribute a little more as a taxpayer than I probably contributed on the committee I served on.

The thing that worries me is the cost of the sludge removal. I had experience with one situation in Seatuck Cove, where it cost the county $413,500 to dredge a small percentage of this, probably 20 or 30 percent. I don't think we have any way of telling right now how much was removed.

But if we continue with the same type of operation, dredging the sludge and putting it into the sea, a rough estimate of $50 million probably wouldn't be too far off.

I would like to point out also as a taxpayer that this work is not being done by the county dredge, as was intimated by Mr. Dennison. All of this work of pumping the sludge into the sea is being done by dredgers who are hired,

who are outside contractors.

It seems to me that if we could find a way of using the county dredges for this purposes, or perhaps the two of them together, we could keep them occupied for five years, and I think this would be a very good thing.

I have another point. Mr. Mercer mentioned the real estate involved, the question of the removal of the duck farms. I believe five of them have already gone out of business. They are probably sitting there waiting for someone to come along there and dredge the duck sludge, and they will then have a nice piece of waterfront real estate.

If this trend continues on and more duck farms fall by the way, I would like to make a recommendation that whatever suitable waterfront land was available or was obtained by the county or the State or some suitable agency, and should be used for public recreation, for boat ramps, for marinas, and things of this nature. Also, some of the creeks probably could be rehabilitated and would be useful wetlands.

I had some other points to make, but I think Mr. Mercer covered the field so thoroughly that he didn't leave much room for anyone else, so I will close, unless you have any questions you would like to ask.

MR. STEIN: I don't know if there is anyone here

representing the County Executive.

I think your remark is correct, but as I recall Mr. Dennison's statement, he said that if the county dredges were used, it would take five years. He didn't say it was being used.

MR. McNICOL: No, the county dredges have not been used.

MR. STEIN: I don't think he said that.

MR. McNICOL: They tried to use the county dredges and found they weren't suitable.

MR. STEIN: Are there any other questions or comments?

(There was no response.)

MR. STEIN: If not, thank you very much, sir.

Are there any other statements we should hear? Do you have any?

MR. DeFALCO: No.

MR. EVANS: I would like to make a statement on those county dredges.

MR. METZLER: Would you give your name?

MR. STEIN: Would you come up, and let us have your name, please?

STATEMENT OF MR. BARNEY A. EVANS,
PRINCIPAL CIVIL ENGINEER, SUFFOLK
COUNTY DEPARTMENT OF PUBLIC WORKS,
YAPHANK, NEW YORK

MR. EVANS: My name is Barney Evans, and I am with the Suffolk County Department of Public Works in the Waterways Division.

The county has used their dredges on several projects for the removal of duck sludge and pumping it out into the ocean.

I just want to make the record straight on that.

MR. STEIN: Thank you, sir.

Are there any comments or questions?

MR. METZLER: Yes. I want to ask a question, if I may. There have been some references to figures available to let us know how much sludge there is. Do you have any idea?

MR. EVANS: No, I haven't.

MR. METZLER: Do we know how much sludge exists?

MR. EVANS: No, I haven't any idea.

MR. METZLER: And you don't know of any studies that have been made?

MR. EVANS: No, sir.

MR. METZLER: So actually the committee conclusion is that we are going to have to find out about this if we are going to remove the sludge?

MR. EVANS: That is correct. You would have to make a study on your own and find out.

MR. METZLER: All right, thank you.

MR. STEIN: We have had an excellent report and excellent contributions from the participants here. I think we are rather close to coming up with conclusions and findings of the conferees. However, because of the nature of the problem, considering a luncheon recess and executive session, it would probably be realistic to adjourn at this time until 3:00 o'clock.

With that, we will stand recessed until 3:00 o'clock. During that time, the conferees hopefully will have lunch and the executive session, and at 3:00 o'clock we will have an announcement.

We stand recessed until 3:00 o'clock.

(Whereupon, at 12:30 a recess was taken.)

AFTERNOON SESSION

3:25 P.M.

MR. STEIN: May we reconvene?

We have a letter addressed to Mr. Dwight F. Metzler, P. E., from Arthur McComb, President of The Lake Ronkonkoma Civic Association. Without objection, this letter will be entered into the record.

(The letter above referred to reads as follows:)

THE LAKE RONKONKOMA CIVIC ASSOCIATION, INC.

P. O. BOX 444 Ronkonkoma, New York 11779

June 21st, 1967

"Dwight F. Metzler, P. E.
Deputy Commissioner, N. Y. State Department of Health,
Panel Member, Pollution Conference,
Patchogue, New York.

"Dear Mr. Metzler:

"I restrained my desire to rise and comment, thinking further opportunity would be given at three o'clock, so I write this to you.

"I endorse Mayor Waldbauer in his efforts to achieve less emphasis on the negative image of his Village of Patchogue in this conference and its reports. It is unfair, misleading, and less than an objective influence on the necessary comprehensive approach.

"However, as president and otherwise in our association, I have long and often opposed the efforts of those who would build multiple dwellings indiscriminately for speculation purposes, and without real need shown toward our real objectives in planning for the safe, healthful maximum number of residents possible in any one area.

"We stand here in Patchogue, but as well we are in Brookhaven Town, Suffolk County, New York State, and in the United States, and we must gauge our planning for the whole, not just for Patchogue. This is needed perspective.

"I admire his concern for his duty to Village residents. But on the other hand, sewage plant effluent, however well cleaned, provides nitrates and phosphates, discharged into the Bay to feed the algae which ruins fish and water. We all pay for the problems that this causes, not just Patchogue.

"Therefore, if Patchogue would only move as slowly toward 2, 3, 4 and 5 story apartment buildings as they are toward the secondary stage sewage plant, the seeds of cities would find it hard to get planted, and we all know what is now happening to cities. They all had to start somewhere, and our taxes will have to bail them out.

"Concern for health, safety, morals and general welfare, the obligation of town and village boards in Town Law Section 261 and Village Law Section 175, should override all

other considerations. Population density limits is the only answer, and that means from the ground up.

"Sincerely yours,

"Arthur McComb,
President."

MR. STEIN: It is always a pleasure to deal with the New York representatives. I know that for them and us it might be an abrasive experience, but we have arrived at unanimous conclusions and recommendations. So far, our record remains unbroken in that regard.

The conferees unanimously agree to the following conclusions and recommendations:

1. The waters of Moriches Bay and the eastern section of Great South Bay are polluted.

2. This pollution substantially interferes with the shellfish industry in the shipment and marketing of shellfish in interstate commerce.

3. To date, the remedial measures taken to abate the pollution have not been adequate. The delays in abating the pollution are due to the very complicated nature of the problem and the tremendous growth of the community in terms of population.

4. The conferees believe that the pollution problems are amenable to solution, and that multiple uses

of the waters are possible.

5. There are four major points involved in the total pollution control problem in the conference area. These are: (1) duck farm wastes, (2) domestic wastes, (3) sludge deposits in the bay waters, and (4) the bay inlets.

6. The conferees note that major progress has been made towards the abatement of pollution in the conference area.

7. All the duck farms in the conference area:

(a) On or before August 1, 1967 shall submit to the New York State Department of Health final construction plans in approvable form, prepared by or under the direction of a duly licensed professional engineer, for adequate waste treatment facilities to remove at least 85 percent of the suspended solids and at least 85 percent of the biochemical oxygen demand, and a substantial portion of the phosphates thereof and therein shall be removed, and facilities for disinfecting such wastes and/or waste effluents to the extent that the final effluent shall

at all times contain the chlorine residual of not less than 1 part per million after not less than 15 minutes contact time and a coliform count not greater than 100 per 100 ml. in at least 90 percent of the samples in a series thereof, provided that at no time the coliform count of such organisms in said final effluents exceed 10,000 per 100 ml.

(b) On or before November 1, 1967, initiate construction of such facilities.

(c) On or before April 30, 1968, complete construction of such facilities.

(d) Thereafter maintain and operate such facilities in such manner that they at all times meet the performance criteria set forth above, and that the persons responsible for the maintenance and operation of such facilities set up an adequate trained and equipped staff in order to thereafter maintain and operate treatment facilities installed at duck farms at all times in conformance with

requirements established by the New York State Department of Health.

8. The maximum amount of domestic wastes in the conference area shall be collected in sewers and given secondary treatment plus chlorination of the effluent. The New York State Department of Health shall encourage and cooperate with local authorities to this end and shall report to the conferees as to progress in six months.

9. Cognizance is taken of the activities of the Village of Patchogue to provide adequate waste treatment facilities. It is recognized that they have provided primary treatment facilities and are sympathetic with the objective of providing secondary treatment facilities with chlorination. The Village of Patchogue shall be required to construct and have in operation a secondary treatment plant with effective chlorination by December 31, 1969.

10. The waters affected by duck sludge be surveyed to delineate accurately the extent, composition and possible deleterious effects of duck waste sludge. This survey shall be started immediately under the direction of Mr. Robert D. Hennigan of New York State, and Mr. Paul DeFalco of the Department of the Interior. A report shall be made to the conferees within six months.

11. Pending completion of this survey, dredging

of material containing sludge in the enforcement area from Patchogue River to the eastern end of Moriches Bay shall be pumped to the ocean for release. No spoiling of duck wastes from the area shall be placed on wetlands or in the waters of the adjacent bays. Ocean disposal shall be carried out as follows:

(a) Dredging and ocean disposal undertaken only from October 15 through May 15.

(b) Spoil to be disposed of directly into the ocean below the low water level.

(c) The spoil release point to be approximately 1.5 miles away from Moriches Inlet, and further where practical, unless a lesser distance is indicated at the time of the application for the dredge permit.

12. The completion of the Moriches Inlet stabilization project shall be advanced. Such action will coincide and be in phase with the schedule for construction of other pollution abatement facilities in the enforcement area.

13. The conferees agree that regional or area-wide drainage collection systems and treatment are necessary for the protection of the waters of Moriches and Great South Bay for all beneficial uses.

14. Great value would accrue to the long range pollution control program in the enforcement area if the Corps of Engineers would construct a model of the Great South Bay and adjoining bays. Data obtained from operation of the model, together with prototype data from the bays, would provide much basic information necessary to devise a comprehensive solution of the interrelated water management problems of the bays.

15. The conferees will hold periodic public progress meetings every six months.

Are there any changes, comments or suggestions?

(There was no response.)

MR. STEIN: If not, I think this has been a very productive conference.

A VOICE: Mr. Stein, may I speak?

MR. STEIN: I'm sorry, sir. The public participation in this conference was closed. We gave full opportunity for the public to participate. The list was held open all morning.

We now stand adjourned.

(Whereupon, at 3:35 p.m., the conference was adjourned.)

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